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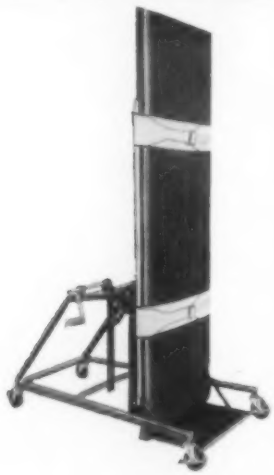

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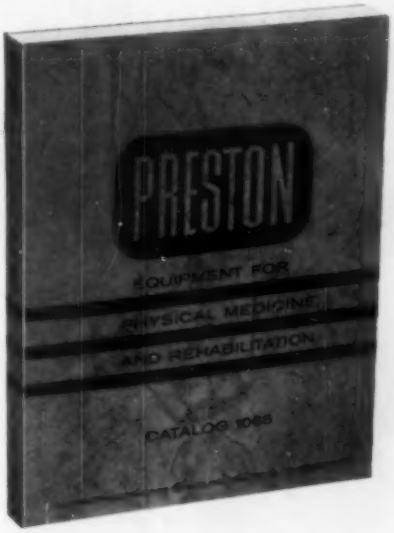

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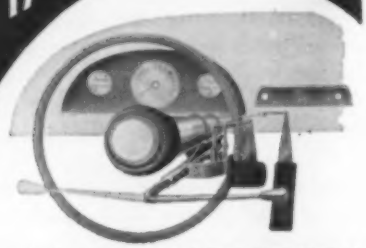

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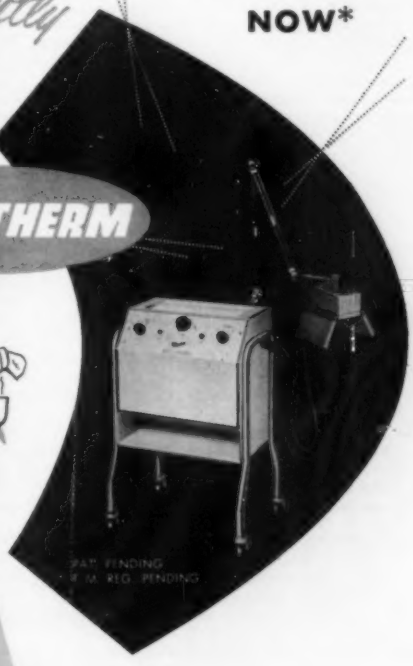

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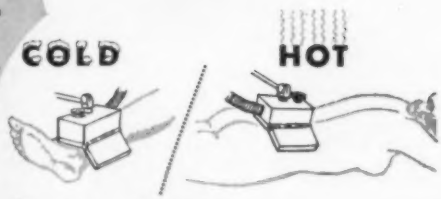

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The Dilemma of the Teaching Hospitals: Patients May Get Buried Under Programs. Albert Snoke, Modern Hospital, 94: 91-95, April 1960

AMPUTEES

Amputations and Artificial Limbs. Leon Gillis, Ann. R. Coll. Surgeons England, 26: 24-56, January 1960

Clinical Experiences with the S.A. C.H. Foot. E. J. Gordon and J. Ardizzone, J. Bone Surg., 42-A: 226-234, March 1960

ARTHRITIS

Muscle Atrophy in Rheumatoid Arthritis: An Electrodiagnostic Study. L. D. Amick, Arthritis & Rheumatism, 3: 54-63, February 1960

Surgical Aid for Arthritis of the Hand and Elbow. F. M. Howard, J. Internat. Coll. Surgeons, 33: 336-341, March 1960

CIRCULATION

Effects of Muscular Work and Heat on the Cardiovascular System. Lucien Brouha, Indust. M. & S., 29: 114-120, March 1960

Peripheral Vasodilation: Methods of Evaluation and the Correlation with Clinical Practice. F. Kaindl, Angiology, 11: 15-20, February 1960

Rehabilitation in Congestive Heart Failure. Howard A. Rusk and Menard M. Gertler, Circulation, N.Y., 21: 444-447, March 1960

NEUROLOGY

Cerebral Ischaemia and Extra-Cerebral Vascular Disease. Edward C. Hutchinson and Peter O. Yates, Postgrad. M. J., Lond., 36: 14-22, January 1960

Bell's Palsy. Annotations, Lancet, Lond., 1: 638-639, March 19, 1960

NEUROPHYSIOLOGY

Clinical and Electromyographic Studies of "Spinal Reflexes" in Premature and Full-Term Infants. I. Fenyes, C. Giergely, and S. Toth, J. Neur., Lond., 23: 63-68, February 1960

Neuromuscular Facilitation and Antidromic Discharges in Motor Nerves: Their Relation to Activity in Motor Nerve Terminals. Gerhard Werner, J. Neurophysiol., 23: 171-187, March 1960

Precentral Facilitation and Inhibition of Spinal Motoneurons. James B. Preston and David G. Whitlock, J. Neurophysiol., 23: 154-170, March 1960

The Innervation of Skeletal Muscle. Ruth E. M. Bowden, Brit. M. J., 5174: 671-674, March 5, 1960

NEUROSURGERY

Effects of Posterior Root Section on the Activity of Some Muscles in Man. P. W. Nathan and T. A. Sears, J. Neur., Lond., 23: 10-22, February 1960

Involuntary Movement Disorders Following Basal Ganglia Surgery in Man. J. M. Schachter, G. Bravo, and I. S. Cooper, J. Neuropath., 19: 228-237, April 1960

Results of 1,000 Consecutive Basal Ganglia Operations for Parkinsonism. Irving S. Cooper, Ann. Int. M., 52: 483-499, March 1960

OCCUPATIONAL THERAPY

A Study Toward a Theory of Neuromuscular Education through Occupational Therapy. Patricia Ann Curran, Am. J. Occup. Ther., 14: 80-87, March-April 1960

Learning Techniques—Applied to Prehension. Julie Werner Shaperman, Am. J. Occup. Ther., 14: 70-74, March-April 1960

ORTHOPEDICS

Congenital Dislocation of the Hip. E. A. Nalebuff and P. L. Norton, J. Am. M. Ass., 172: 1245-1251, March 19, 1960

Correlation of the Myelogram with Clinical and Operative Findings in Lumbar Disc Lesions. W. E. Lausche and L. T. Ford, J. Bone Surg., 42-A: 193-206, March 1960

Digital Flexor Tendons: An Experimental Study. Part I. The Significance of Each Component of the Flexor Mechanism in Tendon Healing. W. K. Lindsay and H. G. Thomson, Brit. J. Plastic Surg., 12: 289-316, January 1960

External Splintage as a Cause of Movement in Fractures. J. H. Hicks, Lancet, Lond., 1: 667-670, March 26, 1960

Foot Strain. Oscar O. Selke, Jr., Orthopedics, 2: 48-50, March 1960

Hand Surgery (The Surgical Volumes of the History of the United States Army Medical Department in World War II). Lot D. Howard, A. M. A. Arch. Surg., 80: 374-378, March 1960

Hip Synovitis in Children. Robert B. Tudor, J. Lancet, 80: 51-52, February 1960

Surgical Relief of Severe Paralytic Hip Contracture. D. Allbrook and H. F. Lunn, Lancet, Lond., 1: 459-460, February 1960

The Patello-Femoral Joint. A. Graham Apley, Postgrad. M. J., Lond., 36: 36-44, January 1960

Vertebral Growth and Its Mechanical Control. Robert Roaf, J. Bone Surg., 42-B: 40-59, February 1960

PHYSIOLOGY

Effect of Exercise, Immobilization and Intermittent Stretching on Strength of Knee Ligaments of Albino Rats. P. J. Rasch, R. Maniscalco, W. R. Pierson and G. A. Logan, J. Appl. Physiol., 15: 289-290, March 1960

Production and Absorption of Work by Muscle. A. V. Hill, Science, 131: 897-903, March 25, 1960

REHABILITATION

Design for a Study of Geriatric Rehabilitation. Wilma Donahue and James W. Rae, Jr., Geriatrics, 15: 229-232, April 1960

Physiotherapy in Medical and Social Rehabilitation. Margaret A. Stewart and Elvira Hobson, Physiotherapy, 46: 69-74, March 1960

Through Activity to Rehabilitation: A Challenge to the Patient. M. D. Gardiner, Physiotherapy, 46: 63-65, March 1960

RESPIRATION

An Artificial Respiration Unit. V. M. Green, Physiotherapy, 46: 66-68, March 1960

Basic Bronchopulmonary Physiology in the Management of Postpolio Respiratory Problems. M. V. Davis, B. F. Mitchel, and M. Adams, J. Lancet, 80: 53-56, February 1960

Negative Pressure Breathing. Editorial, Am. J. Med., 38: 333-336, March 1960

Tongue, Hyoid and Larynx Displacement in Swallow and Phonation. R. L. Shelton, J. F. Bosma and B. V. Sheets, J. Appl. Physiol., 15: 283-288, March 1960

MISCELLANEOUS

Potential Treatment of Cancer by Electromagnetic Heating. R. K. Gilchrist, Surg. Gyn. Obst., 110: 499-500, April 1960

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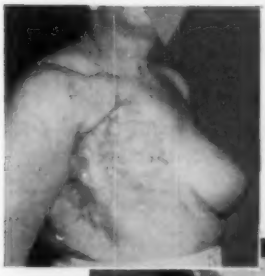

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Physical Therapy for the Asthmatic Child

Betty Pearl, B.S.*

Breathing exercises for asthmatic patients have been employed for many years. Certain of these programs have been published.[1,2,3,4,5]

This paper is an outline of the program of physical therapy that was given to 14 asthmatic children, ranging in ages from 5 to 15, at the University of Colorado Medical Center. The program was based on published[3,4,5] and unpublished[6] programs. The patients were referred by the Pediatric Allergy Clinic at the University of Colorado Medical Center.

The reason for this study was to determine if with allergy management and physical therapy the asthmatic child could 1) experience a decrease in the number of asthmatic attacks, 2) abort asthmatic attacks by employing the exercises, and 3) participate in more strenuous physical activities. It must be emphasized that there is no definitive proof at this time that such a program is effective. However, it is hoped that this report will be of interest to those in the field of physical therapy.

Asthma is a condition which is characterized by paroxysmal attacks of labored breathing.[7] During the normal expiratory phase of breathing the bronchioles are narrowed. In the expiratory phase of respiration, during an asthmatic attack the lumen of the bronchioles are narrowed even further due to spasm of their circular smooth muscles. This narrowing is accompanied by a swelling of the bronchial mucous membranes followed by exudation of the sticky mucus. Thus expiration becomes a major problem for the asthmatic victim. The lungs become overdistended with unexpelled air which interferes with the normal exchange of gases. The diaphragm remains descended or it may undergo small ineffective excursions. The lower chest becomes fixed and only the upper intercostals and accessory muscles of respiration are being used during an attack. To enhance the use of these accessory muscles the patient will assume the characteristic posture of bending forward at the waist while pushing the arms forcefully against a firm surface. The inefficiency of this method of breathing is further aggravated by the anxiety that accompanies dyspnea. Generalized neuromuscular tension is apparent. In due time, this abnormal breathing pattern (use of only upper intercostal and accessory muscles of respiration) becomes habitual and is used even during periods free from asthma.

The goals to be achieved by physical therapy were:

1. relaxation—both general and local
2. mobilization of the chest
3. correction of defective posture, especially of the thorax and trunk
4. restoration of a natural breathing pattern

* Staff Physical Therapist, University of Colorado Medical Center.

The program was developed by the Departments of Physical Medicine and Rehabilitation and Pediatrics, University of Colorado Medical Center, Denver, under the supervision of Dr. Dorothy Stillwell, Assistant Professor, Physical Medicine and Rehabilitation, and Dr. Marilyn Smelzer, Assistant Professor, Pediatrics.

a) retraining of lower intercostal muscles and diaphragm
b) correct breathing control during activity

The term "abdominal breathing" referred to throughout the paper means that the abdominal muscles are actively contracted during expiration while inspiration occurs during relaxation of the abdominal musculature. It must be stressed that use of the abdominal musculature in the breathing pattern is solely for the purpose of mobilizing the diaphragm and as quickly as the patient has diaphragmatic control "abdominal breathing," as an exercise, is discontinued.

Relaxation. Local relaxation means relaxation of the muscles of the neck and shoulders with emphasis on accessory breathing muscles and upper intercostal muscles. This was accomplished by:

1. rhythmic swinging of the arms when the patient is supine
2. stretch-relaxation exercises for the overworked, shortened muscles
3. with the patient supine, concentration on "abdominal breathing" while keeping the upper chest still. (In this instance, the patient should try to get as much excursion of the abdominal wall as possible.)

General relaxation can be obtained by use of the Jacobson[8] technic.

Mobilization of the chest. In chronic cases, the thorax may assume the shape known as "barrel chest." Mobility exercises are important to help regain normal size and shape of the chest and to help prevent a fixed distention if this has not already taken place. The following exercises were used:

1. Starting position: Sitting or standing with hands placed on lower rib cage.
   Exercise: Lateral flexion of trunk. Alternate.
2. Starting position: Sitting or standing arms forward flexed to shoulder level.
   Exercise: Arm circling.
3. Starting position: Standing with arms diagonally crossed in front of body.
   Exercise: Arms flinging sideward, upward overhead.
4. Starting position: Sitting with arm diagonally across front of body.
   Exercise: Arm flinging outward, upward with trunk rotation. Alternate.
5. Starting position: Standing with hands on hips.
   Exercise: Trunk rotation with lateral flexion. Alternate.
6. Starting position: Standing with feet apart, right arm outstretched, at shoulder level.
   Exercise: Touch right hand to left toes. Alternate using the left hand to the right toes.
7. Starting position: Sitting or standing with elbows flexed to shoulder level, fingers touching shoulders.
   Exercise: Elbow circling.

Posture. Most of the patients had a tendency to rounded, forward shoulders with shortened pectoralis major muscles and some patients showed early kyphosis. Stretching of the shortened musculature and strengthening of the shoulder girdle muscles were indicated. Even if the shoulder exercises were not done to improve posture they helped to obtain some degree of relaxation. If any other postural defects were noted, exercises were started to help correct them. Good posture was stressed throughout the regimen so that the rib cage could be held in proper alinement for the most efficient breathing.

Breathing control. The first technic taught was "abdominal breathing" with the patient lying either supine or in a modified Crook's position (with patient in a comfortable, semi-lying position as regards his breathing difficulty).[9] In this type of breathing, the abdominal wall is actively contracted during expiration while inspiration occurs during the relaxation of the abdominal musculature with descent of the diaphragm. With the young children this type of breathing was taught by placing a small toy on the abdomen and having the patient actively lower it to encourage forced expiration and actively raise the toy to encourage diaphragmatic movement. If the patient was having difficulty (and also to provide variety) abdominal breathing was combined with "sit-ups" or alternate leg raisings. These exercises were done as follows:

Sit-ups.
Patient exhaled as he came to a sitting position, inhaled in this position and exhaled as he returned to the supine position.

Straight leg raising.
Patient exhaled as he raised one leg, inhaled holding the leg raised, and then exhaled as the leg was lowered.

In order to be sure that the patient was breathing out during contraction of the abdominal muscles, he was told to hiss air through his teeth and breathe in through his nose. (Mouth breathing was discouraged.)

Abdominal breathing was done only when the upper chest was relaxed so the patient could emphasize the expiratory phase. To help motivate the patient, expiration time was clocked and the patient was encouraged to make this time longer. Expiration time was taken after a normal inspiration. Abdominal breathing caused some patients to cough and wheeze after expiration but as they became more proficient the tendency to wheeze and cough lessened.

Lower intercostal breathing was also taught in conjunction with abdominal breathing, or if the patient was having difficulty learning abdominal breathing, lower intercostal breathing was taught first. A wide belt or the hands of the therapist were placed around the lower rib cage. The patient expanded the lower ribs against this resistance on inhalation. On exhalation, the belt or hands were used assistively to depress the rib cage.

At the time when the patient was able to use the lower intercostals, the emphasis was changed from abdominal to diaphragmatic breathing. This restored a more nearly normal breathing pattern with no emphasis on the excursion of the abdominal muscles; movement of the abdominal muscles occurred in relation to the movement of the diaphragm. Diaphragmatic breathing should be a quiet, not forced, type of breathing.

When the patient had mastered the technic of breathing with the diaphragm and lower intercostals, he was started on a regimen of rhythmical breathing; the patient inhaled for 2 counts and exhaled for 4, 5, or 6 counts. Each count took about 1 second to say. If the count is faster the bronchioles will be too forcibly narrowed and the patient will not attain the desired results.[10] This rhythmical breathing was then employed during the sitting, standing, and walking stages, climbing stairs, and later on during the more strenuous exercises that were done in the class.

The patients were also taught an equal phase breathing or abbreviated diaphragmatic breathing exercise; the expiratory phase was the same length as the inspiratory phase. This equal phase breathing was to be used when the patient felt breathless or at the beginning of an attack. As soon as he could, he was to extend the time of the expiratory phase and regain his regular pattern. The patients were taught equal phase breathing as an exercise, but there seemed to be a carryover when they really needed to relieve breathlessness or to try to abort an attack.

Postural exercises were done in combination with the breathing pattern. For example; the patient stood with his back against the wall, forward flexed the trunk, exhaling as he flexed and inhaling while rising. When rising, the patient uncurled himself against the wall touching first the buttocks, then the back, then the head. The act of dropping forward was slower than coming up so that the breathing count or emphasis on expiration could be maintained.

Rhythmical exercises were also done with the breathing pattern. Riding the stationary bicycle, touching the toes, lifting weights with the shoulder pulleys, and the exercises suggested for chest mobilization were all employed.

When the patient was able to maintain the breathing pattern throughout the entire period of treatment (30-45 minutes) and when it seemed that this was becoming quite a natural pattern, the patient was started in a class. This class was held for an hour, two times per week.

A listing of exercises for an asthma class at King's College Hospital, London, England,[6] was used as a reference. Warming-up exercises were done prior to beginning the class and generally included some of the exercises (such as the chest mobilization exercises) that had been taught.

The exercises for class participation were as follows:

Grade 1

a. Starting position: Standing with arms at side.
Exercise: Step on and off a 6 inch block.
b. Starting position: Standing with arms at side and feet together.
Exercise: Trunk flexion and extension.

Grade 2

a. Starting position: Standing with hands on lower rib cage.
Exercise: Step on and off an 8 inch stool.
b. Starting position: Standing with feet apart and hands at side.
Exercise: Bend trunk toward right foot for count 1-8 and rise on count 9-10. Repeat bending toward left foot.

Grade 3

a. Starting position: Standing with feet together and holding a basketball in the hands.
Exercise: Jump with feet apart then together while bouncing the ball.
b. Starting position: Standing with feet together.
Exercise: Flex trunk then swing trunk from side to side for count 1-6 and rise on count 7-8.

Grade 4

a. Starting position: Standing with hands at side.
Exercise: Skip (starting at 20 and working to 200).
b. Starting position: Standing with feet together and hands at sides.
Exercise: Bend trunk forward for count 1-2 and rise on count 3.

Grade 5

a. Starting position: Standing with feet together.
Exercise: Skip rope standing in one spot.
b. Starting position: Standing with arms at sides.
Exercise: Run carrying a 2 pound weight across a 10 foot room.

Grade 6

a. Starting position: Standing with feet together and hands at side.
Exercise: Run in place with knees high.
b. Starting position: Lying with knees bent and hands across chest.
Exercise: Assume sitting position with knees still bent.

Grade 7
a. Starting position: Standing with feet together and hands on lower rib cage.
Exercise: Jump down to full kneeling position and up again.

Grade 8
a. Starting position: Standing facing another person who is 5 feet away.
Exercise: Run, two's, passing a ball back and forth.
b. Starting position: Lying with knees bent and hands on chest.
Exercise: Assume a sitting position and then assume a standing position.

Grade 9
a. Starting position: Standing with feet together and hands at sides.
Exercise: Jump with legs apart, together, together, and then repeat.
b. Starting position: Standing with feet together facing another person who is 5 feet away.
Exercise: Jump with feet apart and together while passing a ball back and forth.

Grade 10
a. Starting position: Standing with feet together and hands at sides.
Exercise: Jump with feet apart and clap hands overhead.
b. Starting position: Standing with arms at sides.
Exercise: Run around two chairs for 30 seconds and progress to 2½ minutes.

In the class the patient did a total of 100 repetitions of Grade 1 (a) exercise stopping after each 10 repetitions for a breathing time check. This same procedure was then used while doing Grade 1 (b), Grade 2 (a) and so on unless there was loss of breathing control. If the breathing could not be controlled within one minute, the patient was demoted a half grade. With this exception, no grade was repeated until all 10 grades had been done once. At the time check on his breathing, the patient had to gain a controlled type of breathing (i.e. quiet breathing using the primary respiratory muscles only) within 1 minute after the exercise was ended.

The patients could rest between different exercises, but no rest other than the breath control break could be taken while doing the 100 repetitions of each exercise. The patients were encouraged to progress as rapidly as they could. This was done by having each patient keep his own record and check off each section as it was successfully completed.

When the class was finished, that is when 100 repetitions of Grade 10 (except 10b) could be done, the patients did 100 uninterrupted repetitions of the easy exercises (Grades 1 through 5) before a breath control break. When all the technics had been mastered and all the exercises completed, the patients were put on a "post-graduate" course. That is, the patients were to continue using their breathing patterns and their postural exercises and were allowed to be on unrestricted activity. They are rechecked in the Physical Medicine and Rehabilitation Department once every two months.

From the start of the program, the patients were on a home program. They were to do 5 minutes of breathing exercises and 5 minutes of postural exercises, twice a day. In the case of very young patients, the mother was taught the entire program so she might help the patient at home. Later when the breathing pattern had been done in the program the patients would do the breathing pattern at home when walking, watching television, or any other time when their activity was light. As more strenuous exercises were tried during the treatment time, the patient was encouraged to try these at home also. They were also encouraged to try diaphragmatic breathing, either regular or abbreviated, at the beginning of an asthmatic attack. Many of these patients were actually able to abort an attack if the exercises were started in the early phase of an attack.

During the program, the patients received intensive management of their allergies. It was found that if hyposensitization injections were given just prior to the exercise period, the patient often developed mild asthmatic symptoms, but if the injections were given after physical therapy the patients had no difficulty.

All of these patients were on home "environmental control." This was instituted primarily in their bedrooms. However, no special room for control of dust or other allergies was used when treating these asthmatic children. It was felt that since these patients have to live in a world, that in general, is not controlled, they should be exposed to all conditions during the program.

This report summarizes the physical therapy program in which asthmatic children participated, but does not give any definitive results. It must be emphasized that the final evaluation of the effectiveness of the program is not yet available. It is believed, however, that the patients have more confidence in the amount and degree of activity they can do. Furthermore, it would appear that this program has given them some psychological support by providing them with a means of defense against an asthmatic attack.

REFERENCES

1. Livingstone, James L.: Physical treatment in asthma, Brit. J. Phys. M., 15:136-139, 1952.
2. ———: The value of breathing exercises in asthma, Lancet, 2:705, 1935.

3. Peltz, Mannie E.: Physical treatment in asthma, Physiotherapy (South Africa), 4:3, 1949.
4. ————: Principles of treatment for patients with asthma, emphysema or recurrent bronchitis (Published by permission of Brompton Hospital), Physiotherapy (South Africa), 5:4-5, 1951.
5. Asthma Research Council: Physical Exercises for Asthma, ed. 8, 1949.
6. Exercises for Asthma Class, King's College Hospital, London, England. (Unpublished)
7. Coope, Robert: Diseases of the Chest, Edinburgh, E. & S. Livingstone, Ltd., 1948.
8. Jacobson, Edmond: Progressive Relaxation, Chicago, The University of Chicago Press, 1938.
9. Prosser, Edith: Manual of Massage and Movements, Philadelphia, J. B. Lippincott Company, ed. 3, p. 115.
10. Ebert, R. V., Fry, D. L, Stead, W., and Brown, C.: The mechanisms of pulmonary ventilation in normal subjects and in patients with emphysema, Am. J. Med., 16:80-97 (Jan.) 1954.

The Treatment of Pressure Areas

A Preventive and Curative Program

James R. Hayhurst, B.S. and Harry W. Kirk, B.S.

The life span of man has shown a steady increase over the years. Associated with this increased longevity has been a multiplicity of ills resulting in a large number of patients confined to wheel chair or bed. Concomitantly the problem of pressure areas has become greater. This article is concerned with these conditions.

In January, 1958, the Medical Staff of this 1122-bed neuropsychiatric hospital formed a committee to study the problem of pressure areas and to develop a more adequate preventive and curative treatment program. The committee, composed of a ward physician, consulting physiatrist, physical therapist, and representatives from the nursing service developed the following program:

1. Nursing Care
   a. Keep the patient dry
   b. Turn the patient at least every two hours
   c. Relieve the pressure points
   d. Clean and massage non-denuded areas with germicidal soap, silicote spray, and with a solution of alcohol and 20% tannic acid.
2. Diet
   a. High protein intake
   b. Vitamins
3. Physical Therapy
   a. Infrared radiation, 20-30 minutes b.i.d., followed by massage
   b. Ultraviolet radiation as indicated
   c. Treatment seven days per week

From the Physical Therapy Section, Physical Medicine and Rehabilitation Service, Veterans Administration Hospital, Lexington, Ky.

When the program was initiated the patients, all of whom were in the geriatric classification, were divided into two groups: namely, those totally bedridden, and those confined to wheel chairs. Diagnoses included hemiplegia, Huntington's chorea, Parkinson's syndrome, and quadriplegia. The problems involved were the same for each group, caused by prolonged pressure on focal points of their bodies; the location of the pressure sites varied, however.

The two groups were again subdivided according to the condition of their skin. These two categories were: (a) those having a pinkish color caused by the patient remaining in a static position for prolonged periods of time; and (b) those having open wounds accompanied by drainage. The immediate goal of the program was to promote healing of the open and draining areas and to maintain and improve those areas not actually broken down. Thus with improvement of the tone and texture of the skin, an effort would be made to maintain it in a healthy state.

During the early stages of the program various supportive devices and technics were devised by the physical therapy and nursing services. Among these was a false bottom seat designed to displace or shift the weight, especially from the ischial tuberosity.

The treatment program began with thirteen patients with open and draining pressure areas, and two with pinkish areas. After six months, the program included nine patients with open

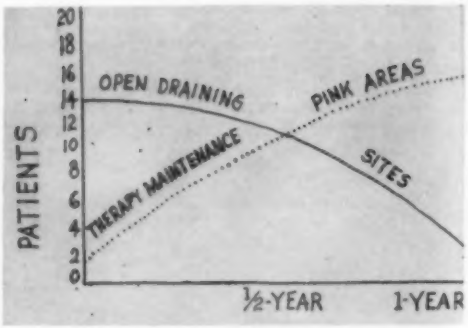

FIG. 1. Effects of maintenance treatment on open, draining pressure sores.

and draining areas, and nine with pinkish areas. No effort was made to determine the turnover of patients during this period.

At the end of a year there were fifteen patients with pink skin regions on preventive maintenance, and two with open draining lesions (Fig. 1). This is a reversal of the conditions found in this group the year before.

Patient turnover was very low because as rapidly as areas became healed patients were placed on a prophylactic regimen to prevent future breakdown. It was interesting to note that only one patient experienced a recurrence of reopening of the lesion under the active maintenance program.

The sites most commonly treated for the bedridden patients were on the vertebral spine; the scapular border; over the sacrum; the heels; on trochanter; and on the elbows. Wheel chair patients most frequently suffered lesions on the ischial tuberosities and coccyx. Each of the patients presented a different problem in relation to location of pressure areas and the general health and condition of the skin.

Physical therapy was conducted on a seven-day-per-week basis for patients having active lesions; whereas maintenance was given on a five-day-per-week basis.

The average age of the treated patients was over 65 years. They constitute about 5 per cent of the hospital census. Another 5 per cent of the hospital census is classified as "physically disabled." These patients are potential candidates for this program. Thus as life span increases and more of our disabled persons become captive to beds and wheel chairs, their care and maintenance will pose an increasing problem.

Among the values derived, not counting the personal well-being of the patients, were reduction of open, draining pressure areas; release of personnel for effective work elsewhere; the reduction of supportive drugs and dressings; and the satisfaction of preventing rather than treating resultant breakdowns.

In summary, the success of the intensive program demonstrated that "an ounce of prevention is worth a pound of cure."

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It has been shown at the following international meetings: Cuarta Conferencia Interamericana Sobre Rehabilitación, San Juan, Puerto Rico, 1959; Third Congress of the World Confederation for Physical Therapy, Paris, France, 1959; and will be shown at the Eighth World Congress of the International Society for the Welfare of Cripples, New York, 1960.

Do you use it to help you interpret physical therapy to your community?

A complete listing of the film libraries where the Association's latest film is on deposit may be found on page 99 ff. of the February, 1959, issue of the *Physical Therapy Review*. If the film library nearest you cannot supply you on the date you need *The Return*, look through the list to see if another library will service your state. National Office will send you a print if it is unavailable locally. In addition to the 38-minute version, there is a TV version running 28 minutes. There is also a 58-second TV spot with sound track, excerpted from *The Return*. Both of these are available for borrowing from the National Office. *The Return* was chosen by Howard Thompson of *The New York Times* as one of the 10 best nontheatrical films of 1958.

The Positioning of Severely Burned Hands When Treated by the Exposure Method

JoAnne K. Gronley, Lieut., AMSC*

In the treatment of burned hands, the problem of preserving the web space and maintaining a functional position of the fingers is complicated by the lack of healthy skin necessary for the proper attachment of a satisfactory positioning device. Such a device, to be effective and insure support, needs to be attached to the hand and forearm in several places. Frequently, sufficient intact skin area is not available. Application of the device to the affected area has been unsatisfactory in the past, because most materials either will stick to the moist, burned area or will cause maceration and further damage. Proper shaping of a device is also difficult under these circumstances.

The patient with severely burned hands will naturally attempt to hold them in the least painful position. The area of greatest tension and, therefore, the most painful area is across the dorsum of the hand just proximal to the metacarpophalangeal joints. To release the tension in this area the patient hyperextends the metacarpophalangeal joints and adducts the thumb. The tightening of the eschar and crust as it forms and dries in this position causes further hyperextension of the metacarpophalangeal joints and fixes both the thumb and fingers in a nonfunctional position.[1] The functional position which should be maintained is one in which the thumb is abducted and in opposition to the fingers with all metacarpophalangeal and interphalangeal joints of the fingers slightly flexed. This position can be obtained only while the burned area is still moist. Once the crust or eschar is formed, the fingers cannot be moved without breaking this hard, unyielding surface.[2]

The hand rolls used at the United States Army Surgical Research Unit, Brooke Army Medical Center, have proved to be effective in the positioning of burned hands. The rolls are made of a coarse mesh gauze roll covered with parresined lace-mesh gauze† impregnated with a paraffin compound (Fig. 1A and B). This covering on the roll allows the exudate from the burned areas to seep down into the roll thus preventing maceration of the skin. At the same time the exudate will not solidify on the parresined gauze and will therefore not stick to the burned surface. Finger and thumb straps have been added to hold the roll in the patient's hand and to aid in maintaining flexion of the metacarpophalangeal joints. The size of the gauze roll can be adjusted to the size of the patient's hand and the spread of the thumb web space at the time positioning is initiated. The roll should be as large as possible in diameter, but small enough to allow a few degrees of flexion at the metacarpophalangeal joints.

Construction

Materials include parresined mesh gauze, adhesive tape, and two rolls of coarse mesh gauze or a similar material about six inches in width. The materials are used as follows:

1. First cut a strip three feet in length from one of the rolls of coarse gauze and fold it lengthwise to make a long tie. Also cut and fold two strips of gauze about ten inches long for finger and thumb straps. If the fingers are moist with exudate the finger and thumb straps may be covered with parresined gauze to prevent sticking (Fig. 1C).
2. Place the long tie lengthwise on the unused gauze roll and wrap the second gauze roll around the first, building up the roll to the desired size. If it is impossible to increase the size of the original roll, due to the patient's restricted finger motion, unwind about half of the gauze roll, insert the long tie and rewind the roll. Insertion of the tie in this off-center manner prevents the roll from turning in the hand and pulls the bulk of the roll into the thumb web space.
3. Next, cover the roll with two layers of parresined mesh, taping the end of the mesh on the side of the roll where the tie is located. This places the tape in an area least likely to be in contact with the hand.

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† Parresined Lace-Mesh Surgical Dressing, List no. 1188, Abbott Laboratories, North Chicago, Ill.

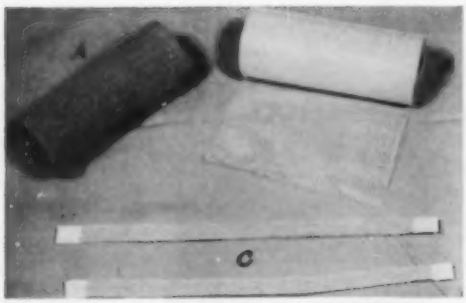

FIG. 1. *A.* Coarse mesh gauze roll. *B.* Parresined Lace-Mesh Surgical Dressing. *C.* Finger and thumb straps covered with parresined gauze.

4. Place the roll in the hand so that the tie pulls the bulk of the roll into the thumb web space, then cut slits through the parresined mesh down into the roll on each side of the thumb and opposite the proximal phalanx of the index and little fingers.

5. Insert blunt forceps between the layers of gauze at the end of the roll about midway between the center and the edge of the roll. Carefully work the point of the forceps through the roll and out one of the slits just made. Grasp the end of one of the finger straps firmly with the forceps and pull it down through the slit and out the end of the roll. Pull the other end of the finger strap and the ends of the thumb strap through the roll in the same manner (Fig. 2).

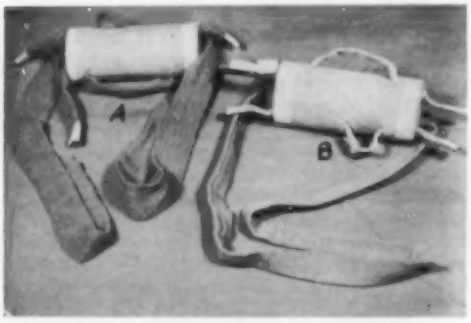

FIG. 2. *A.* Parresined gauze covered roll with uncovered finger and thumb straps. *B.* Parresined gauze covered roll with parresined gauze covered finger and thumb straps.

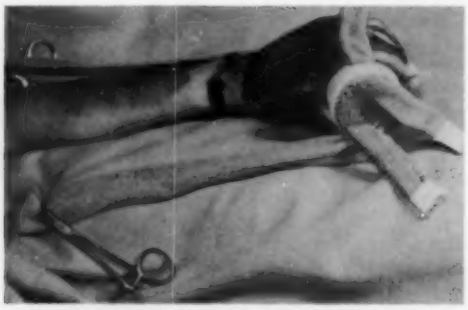

Fig. 3. Finished roll in patient's hand.

6. Wrap narrow strips of tape around the ends of the roll to hold the parresined mesh gauze securely in place.

APPLICATION

When the roll is placed in the patient's hand it should be forced back into the thumb web space. Finger and thumb straps should be tightened securely enough to hold the hand against the roll, but care should be taken not to impair circulation. To hold the roll firmly back in the web space, attach the long ties to the patient's bed or armboard somewhere near his elbow. The pull of the ties should be uniform so as to prevent either radial or ulnar deviation at the wrist. The hand can then be positioned on the bed or armboard so that the wrist remains in a few degrees of extension (Fig. 3). Continual checking of the patient is necessary to insure that a functional position is maintained at all times. The roll must not be allowed to slip out of the web space and the palm of the hand, for then it will force the fingers to hyperextend at the metacarpophalangeal joints and allow the thumb to pull into adduction.

Good positioning, initiated early in the patient's hospital course, is essential if the maximum function of severely burned hands is to be attained.

REFERENCES

1. Moncrief, J. A.: Third degree burns of the dorsum of the hand, Am. J. Surg., 96:535-44, (Oct.) 1958.
2. Artz, C. P. and Reiss, E.: Treatment of Burns, Philadelphia, W. B. Saunders Company, 1957, pp. 66-69.

Adaptation of Ultrasonic Therapy to Irregular Surface Areas

Norma V. Reynolds*

The use of ultrasound to promote the healing of indolent surface lesions has been reported by numerous investigators. [1, 2, 3] However, the location of the lesion frequently makes the application of ultrasound difficult if not impossible. A technic requiring the immersion of the part in water for underwater application of ultrasound may be undesirable from the standpoint of possible bacterial contamination. Furthermore, it may be uncomfortable to the patient, awkward for the technical administration of this form of treatment; or direct contact of the transducer head with the lesion may not be desired. It is my purpose to present a simple method for the preparation of the lesion area for ultrasonic therapy and to present a case report illustrative of its value.

Method

Theraplast is molded into a ring surrounding the part to be treated and is placed firmly in contact with the skin. The shallow basin thus created is then filled with sterile water; the transducer surface is placed in contact with this fluid medium and the prescribed amount of ultrasound is then administered.

The warmth of the body tends to cause the Theraplast to flatten. However, the Theraplast usually adheres snugly enough to the skin and its contours to prevent water leakage. A towel folded around the ring gives it additional support and keeps it in position. Upon completion of the treatment, the water may be removed by a sterile syringe or by surrounding the area with additional toweling, lifting the mold and permitting the escaped fluid to be absorbed by the towels. The lesion may then be dried with sterile gauze flats after which a sterile dressing is applied. All reasonable precautions against bacterial contamination may thus be maintained.

The Theraplast may be sterilized by autoclaving. It may also be cleansed by immersing the Theraplast for 10 minutes in a solution of Surgi-Cen (containing hexachlorophene), 1 part of this antiseptic soap to 2 parts of water and kneading the Theraplast occasionally during the immersion period.

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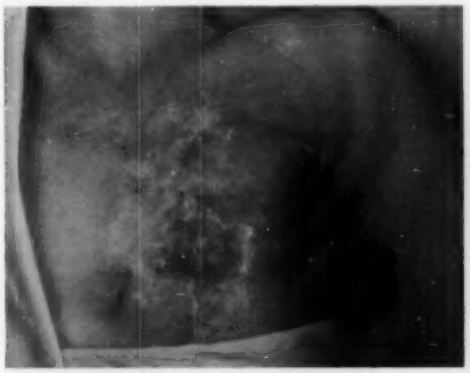


Fig. 1. The area to be treated.

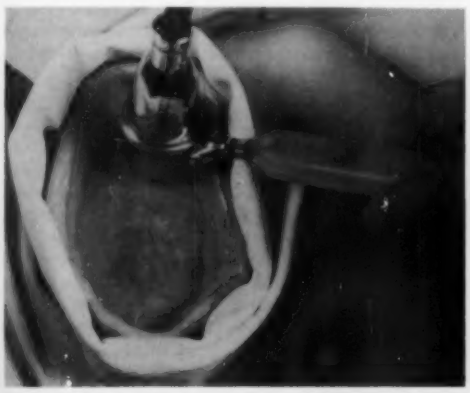


Fig. 2. The Theraplast mold in place supported by a folded towel. Mold is filled with sterile water and the transducer head submerged ready for treatment.

CASE REPORT

Figure 1 illustrates an instance in which the location and nature of the unhealed lesion would have precluded the use of ultrasound by ordinary means of application. Five months after surgery an unhealed lesion measuring approximately 5 x 7 centimeters was present on the left anterior chest wall. The surgeon wished to preserve as sterile a field as possible in this area but desired to employ ultrasound therapy. The described technic was successfully employed by immersing the transducer in sterile water as shown in Figure 2 and transmitting the ultrasound to the lesion without risk of trauma to the epithelizing edges. Ten such treatments administered over a two-week period, with a dosage of 1.0 watts per square centimeter for 5 minutes, resulted in complete healing of the lesion.

CONCLUSIONS

1. A simple technic has been described wherein Theraplast can be molded around a part to be treated with ultrasound.
2. Advantages of this technic are:
   a. Localization of ultrasonic therapy to one area only.
   b. Less preparation for treatment than would be required to immerse the body or a part in water.
   c. Less discomfort to the patient inasmuch as he can be placed in a comfortable position.
   d. No particular treatment adaptations are needed other than procuring the Theraplast.
   e. Effective modification of a standard treatment procedure.
   f. Less danger of bacterial contamination of the area.

REFERENCES

1. Jones, A. C.: Utrasonic therapy in the treatment of circulatory indurations of the lower extremities. Proc. Am. Inst. Ultrasonics in Med. 3rd year, 127-129, Sept. 1954.
2. Aldes, J. H.: Has ultrasonics proved successful in clinical medicine? Proc. Am. Inst. Ultrasonics in Med. 4th year: 79-99, August 1955.
3. Rubin, D.: Ultrasound and the post-mastectomy syndrome. Am. J. Phys. M. 37:122-123, (June) 1958.

Information for Contributors

The Physical Therapy Review welcomes original articles of interest to physical therapists throughout the world. Prompt reviewing and processing of papers will be assured if attention is given to the following suggestions.

Manuscripts are accepted with the understanding that they have not been published elsewhere. Contributions may be classified as "Feature Articles," "Suggestions from the Field," or "Case Reports." Feature articles are longer and deal rather extensively with the subject presented; suggestions from the field are brief and describe the instrument or device presented; case reports are short and concerned with discussion of a treatment for a specific type of disease or disability. All material should be presented in a clear, logical, and impersonal discourse.

Submit the original *manuscript* and one carbon copy (keep one carbon copy for your files). All written material should be typed, double-spaced with minimum margins of 1 inch on 8½ x 11 inch opaque white paper. Legends for illustrations, tables, references, and acknowledgments should be placed each on a separate sheet. When citing another author's work, a superscript numeral must appear in the body of the manuscript. The *references* must be accurate and numbered in the order in which they appear in the text. Include the name of each author, title of the article, name of periodical, volume number, inclusive pages, and date.

Illustrations should be protected by cardboard and the name of author and figure number written with soft pencil on the back. If *photographs* are used, sharp black and white prints on glossy paper are required, avoid distracting backgrounds. Graphs, charts, and line figures drawn with india ink on heavy white paper are necessary for good reproductions. Letters and figures should be large enough so that they will be readable when reduced for publication. Tables are reproduced more legibly when the carbon is reversed and typing occurs on both sides of the paper.

Address manuscripts to:

PHYSICAL THERAPY REVIEW
1790 Broadway—Room 310
New York 19, New York

Communication with Non-English Speaking Patients:

IV. Arabic, Greek, Turkish

EDITOR'S NOTE: This fourth series of translations of useful expressions concludes, for the present, an effort to contribute a share of understanding among physical therapists, and between physical therapists and patients in other countries. We readily acknowledge that these presentations are inadequate in that no key to pronunciation is given; we are aware that colloquialisms and dialects vary within the countries just as they do in the United States.

The phonetic Arabic expressions were prepared through the British Red Cross which had provided similar material to four members of the Chartered Society of Physiotherapy prior to their assignment to Morocco to assist in treatment of paralyzed victims of the lubricant-cooking oil catastrophe. Eleni Diamandidou of Athens, Greece, an Association member who received the certificate in physical therapy at the University of Southern California, submitted the expressions in her native language. Hanne Thorsen, the member of Danske Fysioterapeuter who prepared the translations in Danish for the April issue, also constructed the Turkish translations. Mrs. Thorsen is employed at the Fredricksberg Hospital in Copenhagen and achieved her knowledge of the Turkish language during one year of work at the University Orthopedic Clinic in Istanbul.

REPRINTS of all series will be available for distribution at the Eighth World Congress of the International Society for the Welfare of Cripples to be held in New York City, Aug. 28-Sept. 2, 1960.

ENGLISH	PHONETIC ARABIC	GREEK	TURKISH
I. *General Expressions*			
1. You are not going to fall	Inta ma ghadishi teh	Then tha pésete	Düsmüyorsunuz
2. Don't be afraid	Matkhfshi	Mi fováste	Korkmayin
3. That doesn't hurt you	Hadda maidorrakshi	Aftó then sas poní	Acımıyor
4. Don't cry	Matgha-out	Mi kléte	Aglamayınız
5. Don't worry	Mat-h-tam	Min anisihíte	Endise etmeyiniz
6. Sit up	Glis filfrash	Kathíste	Oturunuz
7. Stand up	Kom	Stathíte órthios	Kalkınız
8. Walk	M' shi	Perpatíste	Yürüyünüz
9. Roll over	Dor	Yiríste	Dönünüz
10. Lie on your face on the table	Ouj-hek n'tabla	Xaplóste me to prósopo epáno sto trapézi	Yüzü koyun yatınız
11. Lie on your back on the table	Darek n'tabla	Xaplóste me ti ráhi epáno sto trapézi	Sırt üstü yatınız
12. Lie on your side	Nahas al um jumbek	Xaplóste pláyia	Yan yatınız
13. Lie on your other side	Nahas al um jumb dkhor	Xaplóste sto álo pláyi	Öteki yana yatınız
14. This way	Hakda	Pros sta ethó	Böyle
15. Again	A-oud	Páli	Tekrar
16. Hold it	K-bed	Kratíste to	Böyle durunuz
17. With force (against resistance)	Bjehd	Me thínami	Kuvetle
18. Push down with your hands to lift your body	Taki fil arad bashtkom	Spróxte me ta héria sas ke sikóste to sóma sas	Ellerinize dayanarak vücudunuzu kaldırın
19. Slowly	Bashwia	Siyá	Yavasca
20. Not so fast	Masheeb bashwia	Ohi tóso vriyora	Okadar çabuk degil
21. Rest	Retah	Anapafthíte	Istrahat ediniz
II. *Anatomical Names*			
1. Neck	Onk	O lemós	Boyun
2. Abdomen	Kersh	I kiliá	Karın
3. Chest	Sder	O thórax	Gögüs
4. Back	Dahr	I ráhi	Sırt

	English	Phonetic Arabic	Greek	Turkish
5.	Spine	Sinsour	I sponthilíki stíli	Omurga
6.	Face	Loojah	To prósopo	Yüz
7.	Thumb	Shah	O antíhir	Bas parmak
8.	Buttocks	Ourak	I yloutí	Sagrı
9.	Knee	Roukbah	To yónato	Diz
10.	Heel	Arkoub	I ptérna	Topuk
11.	Shoulder	Liktif	O ómos	Omuz
12.	Arm (and hand)	Yid	O vrahíon	Kol
13.	Elbow	Marfak	O angón	Dirsek
14.	Wrist	K'bda Leid	O karpós	Bilek
15.	Hand (and arm)	Yid	To héri	El
16.	Fingers	Swaba	Ta tháktila	El parmakları
17.	Hip	Adam l'fakhda	To ishíon	Kalça
18.	Leg	Rejil	I knímí	Bacak
19.	Foot	G'dim	To póthi	Ayak
20.	Toes	Swaba rejil	Ta tháktila	Ayak parmakları
III.	*Face and Neck*			
1.	Lift your head	Alli Rasak	Sikóste to prósopo sas	Basınız kaldırın
2.	Open your mouth	Ftah foommak	Aníxte to stóma sas	Agzınızı açın
3.	Close your mouth	Sud foommak	Klíste to stóma sas	Agzınızı Kapayın
4.	Open your eyes	Ftah ainek	Aníxte ta mátia sas	Gözlerinizi Açın
5.	Close your eyes	Sud ainek	Klíste ta mátia sas	Gözlerinizi kapayın
6.	Wrinkle your nose	Harrak mana-khrak	Zaróste ti míti sas	Burunuzu Burusturun
7.	Smile	D'hak	Hamoyeláste	Gülünuz
IV.	*Upper Extremity*			
1.	Raise your arm	Alli idek	Sikoste ton vrahíona sas	Kolunuzu kaldırın
2.	Move your arm out to the side	Alli idek hakda	Sikoste ton vrahíona sas playíos	Kolunuzu vücudunuzdan ayırın
3.	Move your arm back to your side	Hani idek	Férete ton vrahíona sas káto	Kolunuzu vücudunuza indirin
4.	Bend your elbow	Tnie idek	Liyíste ton angóna sas	Dirseginizi bükün
5.	Straighten your elbow	Tlak idek	Efthiásete ton angóna sas	Dirseginizi uzatın
6.	Turn your head over	Douar idek	Yiríste to héri sas	Elinizi döndürün
7.	Bend your fingers	Tnie swabek	Liyíste ta tháktila sas	Parmaklarınızı bükün
8.	Straighten your fingers	Tlak swabek	Efthiásete ta tháktila sas	Parmaklarınızı dogrultun
9.	Bend your wrist (flexion)	Tnie l'kabda	Liyíste ton karpó sas	Bileginizi bükün
10.	Lift your hand (extension)	Khalie idek hakda	Sikóste to héri sas	Elinizi kaldırın
11.	Pull your shoulders together	Harrak ktafek	Enósete tous ómous sas	Omuzlarınızı gerin
12.	Lift your shoulder	Alli ktafek	Sikóste ton ómon sas	Omuzlarınızı kaldırın
V.	*Lower Extremity*			
1.	Bend your hip	Miel Datek	Liyíste to ishíon sas	Kalçanızı bükün
2.	Lift your leg	Alli rejlek	Sikóste tin knímí sas	Bacagnızı kaldırın
3.	Bend your knee	Tnie roukbetek	Liyíste to yónato sas	Dizinizi bükün
4.	Straighten your knee	Tlak roukbetek	Efthiásete to yónato sas	Dizinizi uzatın
5.	Roll your leg in	Douar rejlek hakda	Yiríste tin knímí sas pros ta mésa	Bacagınızı içeri dogru döndürü
6.	Roll your leg out	Douar rejlek hakda	Yiríste tin knímí sas pros ta éxo	Bacagınızı dısarı dogru döndürün
7.	Lift your foot	Alli gedmek	Sikóste to póthi sas	Ayagınızı kaldırın
8.	Push your foot down	Dfah rejlek l'taht	Sproxte to póthi sas pros ta káto	Ayagınızı asagı dogru bastırın
9.	Lift your toes	Alli swabah rejlek	Sikóste ta tháktila sas	Ayak parmaklarınızı kaldırın
10.	Bend your toes	Tnie swabah rejlek	Liyíste ta tháktila sas	Ayak parmaklarınızı bükün
11.	Pull your foot in	Harak gadmek hakda	Férete to póthi sas pros ta mésa	Ayagınızı içeri dogru çevirin
12.	Pull your foot out	Harak gadmek hakda	Férete to póthi sas pros ta éxo	Ayagınızı dısarı dogru çevirin

Case Reports

Use of Plaster Casts for Correction of Severe Equinus Deformities

Vida Jo Niebuhr, B.E.

HISTORY

A 7-year-old female was admitted to the metabolic service of the National Cancer Institute, National Institutes of Health, (NIH), in May 1958, with a diagnosis of cryoglobulinemia.

The child's symptoms began when she was 1½ years of age, at which time fever, cough, chronic ear infection, and swelling of the feet were present. Conditions fluctuated but persisted during the next 2 to 3 years. Diagnosis of osteomyelitis was made in April 1955. A year later the skin over the heels had broken down and there was chronic ulceration and drainage from these areas. Part of the os calcis was discharged through the heel lesions, and tissue was lost from several distal phalanges of the fingers.

FINDINGS

Physical findings of significance on physical therapy referral included marked pathological changes in the musculoskeletal system. The distal phalanges of several fingers were absent; flexion contractures of the knees were noted; there was marked atrophy of the thigh and calf muscles and marked equinus deformities with large ulcerative lesions of the heels.

PHYSICAL THERAPY

The patient was referred to the Physical Therapy Service June 3, 1958, specifically because of the ankle contractures. The child had not stood or walked for 5 years. The knees were habitually held at −25 degrees extension bilaterally although it was possible to extend them fully, passively, without too much difficulty. The patient would not actively extend the knees nor maintain extension following passive stretching. The equinus deformities were severe, with the left ankle held in −65 degrees dorsiflexion, the right in −55 degrees (zero considered as the neutral or right angle position between plantar and dorsiflexion). The left ankle could passively be stretched to −45 degrees dorsiflexion, and the right to −40 degrees without resistance from the patient and without pain.

Chief, Physical Therapy Service, National Institutes of Health, Bethesda, Maryland.

The ankles were considered to be the primary problem by the physician in charge who believed that conservative measures of heat and manual stretching would be too prolonged, and even then might not be effective. In his opinion the complicating factors of osteomyelitis and tissue ulceration did not rule out the use of plaster casts since it was proposed to cut out the heel area so that the lesions could be observed.

Therefore, casting procedures were prescribed and carried out by the Physical Therapy Service as follows:

June 16, 1958: Ankle casts applied, extending from below knee, and excluding the toes; heel areas cut out. Left ankle was cast at −30 degrees dorsiflexion; right at −40 degrees.

June 19: Right ankle cast bivalved. Increased range maintained, and passive motion within that range performed without patient pain or resistance.

June 23: Left ankle cast bivalved. Increased range maintained and passive motion performed without pain or resistance.

June 24: New casts applied: Left ankle cast at −20 degrees dorsiflexion; right at −30 degrees.

June 26: Both casts bivalved. Passive dorsiflexion remained −20 degrees on the left, but right could be brought to −23 degrees.

July 1: New casts applied at −20 degrees dorsiflexion, bilaterally.

July 3: Casts bivalved. With knees in full extension, passive dorisflexion remained at −20 degrees bilaterally; with hips and knees flexed, passive motion was −10 degrees bilaterally.

July 25: New casts applied at −15 degrees bilaterally.

July 28: Casts bivalved; −15 degrees maintained.

August 8: New casts applied at −5 degrees dorsiflexion bilaterally.

August 12: Casts bivalved; −5 degrees maintained.

August 14: New casts applied at 0 degrees (neutral position).

With both ankles cast at 0 degrees, the patient would not voluntarily attempt to extend the knees, although muscle strength was at functional level or better. Strong resistance from her as well as slight hamstring tightness prevented attempts at passive extension. On August 19, 1958, under anesthesia, the knees were fully extended without difficulty. Plaster was immediately applied to extend the leg and ankle casts to mid-thigh level in order to maintain knee extension. These casts were bivalved and removed after 3 days. Thereafter it was possible to maintain full knee extension and neutral position of the ankles with the use of posterior night splints. Attention was then directed to the need for corrective shoes, and to beginning ambulation.

On August 25, the child was fitted with stock high-top shoes which had been altered so that they laced in the back as well as in the front; also, part of the back of each shoe was cut out. The shoes could now be put on and taken off with no danger of rubbing against the ulcerated heel lesions. This eliminated the danger of constant pressure from the back of the shoes while they were being worn. The patient tolerated the shoes well and she was able to stand and to take a few steps in the parallel bars.

Discharge from NIH was scheduled for the following day and only two sessions of ambulation were possible. The child's family lived out-of-state, precluding treatment on an outpatient basis. The mother was instructed in the purpose, use, and application of the shoes and night splints; in the need for periodic observation and care of the heel lesions; in methods of preventing contracture recurrence; and in progression of ambulation with and without support.

FOLLOW-UP

Communication January 8, 1960, from the visiting nurse of the county health department responsible for the family's welfare, revealed that the patient had knee ulcerations which prevented use of the splints made at NIH; knee contractures had recurred; and that the mother had a multitude of other responsibilities which prevented her from giving needed attention to this child.

REMARKS

Despite the medical complications involved, the treatment of this child clearly demonstrated that gains could be made by appropriate rehabilitation procedures. Unfortunately, just as clearly demonstrated are the apparent lack of maintenance of such gains and the lack of improvement which could result if an adequate follow-up regimen is not maintained.

ACKNOWLEDGMENT: All casts referred to in this report were applied, as prescribed, by Mario Salvanelli, Assistant Chief, Physical Therapy Service, National Institutes of Health, Bethesda, Md.

The *Review* invites case reports from physical therapists who have followed an interesting course of treatment with or an unusual response to treatment by patients having one of the conditions listed below.

Dislocation of coracoclavicular joint
Ulnar neuritis
Cervical spondylosis
Congenital dislocation of the hip
Tennis elbow
Myocardial infarction
Basketball injuries
Football injuries

Note: Suggestions for preparation of case reports were published in the October 1957 issue of the *Review*, pages 666-667. Reprints of the suggestions may be requested by writing to the *Physical Therapy Review*.

Proprioceptive Neuromuscular Facilitation Film

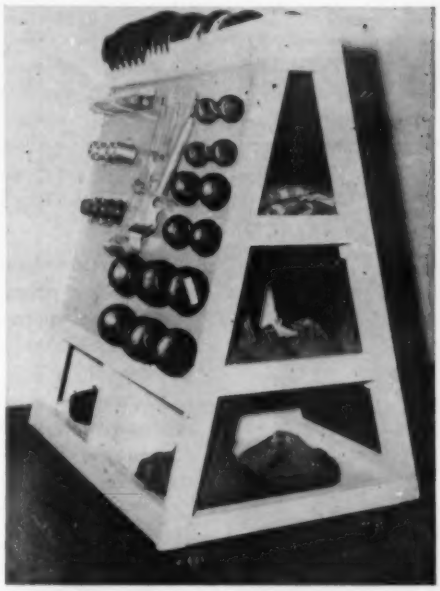
A 35 minute color film with sound is available to chapters and schools of physical therapy at a rental fee of $10.00. One copy of the film has been given to the Association by the California Rehabilitation Center. Requests from states east of the Mississippi should be directed to the American Physical Therapy Association, 1790 Broadway, New York 19, New York; rental is payable to the American Physical Therapy Association. Those west of the Mississippi should write to California Rehabilitation Center, 2600 Alameda, Vallejo, California; rental is payable to the California Rehabilitation Center. All requests should be submitted two weeks in advance of date of showing. Alternate dates are desirable since both copies may have prior bookings.

Suggestions from the Field

Weight Cart

Allan Quail, B.S.*

Portability and ease of accessibility of equipment often become important factors in a busy physical therapy department. A well balanced weight cart designed to provide sufficient space for all weight apparatus, yet compact enough to fit into the space of a small department is illustrated in Figure 1. Basic construction is of 1-inch pine, ¾-inch fir plywood shelving and ⅜-inch peg board. Over-all dimensions are 42 inches long, 43 inches high and 26 inches wide at the bottom tapering to 6 inches wide at the top. The shelves are spaced 10 inches apart. A center upright divider board is necessary to provide adequate support for the peg board. The weights rest on a board placed 3½ inches below the top. In construction, this board actually becomes the top of the cart before the side and end moldings are attached. Notches of varying widths and depths are cut into the top side molding to accommodate accurately the desired number and size of weights. Wood or metal spacers are placed between the weights to keep them in a neat upright position. Casters should be 3 inches or larger depending upon the total amount of expected weight.



Weight cart.

* Supervisor of Therapy, Crippled Children's Hospital-School, Sioux Falls, South Dakota.

International Society for the Welfare of Cripples: Eighth World Congress

The National Society for Crippled Children and Adults will serve as host during the Eighth Congress of the ISWC to be held at the Waldorf-Astoria in New York City, Aug. 20-Sept. 2, 1960. More than 30 national organizations and at least five others worldwide in scope will be participants. Speakers from almost 50 nations will appear on the program emphasizing help to the crippled as a means of fostering international cooperation between persons and groups in other areas.

English, French, German, and Spanish are the languages in which speakers of six general sessions will be heard. There will also be 15 major section meetings and a series of informal discussion groups. Program topics will be centered on crippling conditions and diseases with special attention given to community problems and relationships, social work, use of volunteers, special education, and psychological aspects of physical disability and personnel training.

The American Physical Therapy Association will present an exhibit portraying the "coverage" of the world by the *Physical Therapy Review*. Members of the Association who attend will join physical therapists and occupational therapists from member organizations of the World Confederation for Physical Therapy and the World Federation of Occupational Therapists for an afternoon session and a social hour.

The World Confederation for Physical Therapy will be ably represented by Rudie Agersnap, President, and Joyce Neilson, Honorable Secretary-Treasurer. The WCPT exhibit will reflect international relationships among physical therapists and physical therapists' participation in overseas assignments.

Mildred Elson, former Executive Director of the APTA and first President of WCPT, is serving on the Program Committee of the Eighth Congress.

Editorial

Licensure and Independent Practice

The American Physical Therapy Association has consistently held that the primary purpose of legal regulation of the practice of physical therapy is protection of the public from practitioners of physical therapy who are not qualified by education or who disregard the first tenet of our Code of Ethics which states, "Physical therapy is a medical service and therefore is regarded as an integral part of this field. The physical therapist shall carry on the technics of the profession only with adequate and specific medical direction." Physical therapists who disregard this general principle of ethical practice may be termed "independent practitioners." Such persons, whether employed by institutions, organizations, agencies, or "on their own," constitute a hazard to patient welfare since they are not prepared to diagnose nor are they qualified to determine what treatment a patient should receive.

The APTA has recognized that "self-employment" among physical therapists exists, that it ranges from treatment of one patient after regular working hours to working on a full-time basis, and that it is possible for a physical therapist who is self-employed to practice ethically. The APTA also realizes that the self-employed physical therapist must assume full and continuing responsibility for maintaining close relationships with referring physicians. The self-employed physical therapist must adhere so closely to ethical principles, moral and professional, that his attitudes and behavior are above reproach.

The Association through its House of Delegates in 1954 provided for the establishment of a Judicial Committee which developed procedures whereby the Chapter concerned or the Judicial Committee must discipline members for infraction of the Code of Ethics. If a member engages in "independent practice," he must be expelled from the Association. Expulsion does not mean that this physical therapist will discontinue his independent practice. The only effective means of controlling such unethical conduct is by provision within the laws of the state to prevent practice without referral from and direction by physicians.

To the APTA, self-employment is not synonymous with "independent practice." The APTA wants no part of "independent prac-

tice;" we have never stood for, nor have we condoned the "independent practice" of physical therapy. Would patient care be improved, or would physicians and physical therapists better serve the public if the APTA did not concern itself with the reality of self-employment? or with the licensure of physical therapists? Failure by our professional group to assume its share of responsibility in these matters would by negligence encourage "independent practice."

The Association is not dependent upon any one segment of its membership but relies upon every member, self-employed or not, to abide by the Code of Ethics, and by every act and deed to exemplify the differences between ethical standards of practice and "independent practice." The highest quality of patient care demands cohesion between our group and the medical profession. Such cohesion with appropriate action by physical therapists and physicians will prevent the "independent practice" of physical therapy.

AGNES SNYDER, *President*
American Physical Therapy Association

Summer Reading—and Writing

For vacationers, summer reading is not likely to include the *Review*. Nor do we think it should. Nor do we intend to prescribe a list of "best sellers" or even a list of professional articles and books. Vacation is a time for change from daily responsibilities with patients, students and, for some, the desk. Whether vacations occur in July, August, or whenever, we wish each reader a pleasant and recreative period.

For most physical therapists, and most people, summer is not synonymous with vacation. To some of us summer is the "vacation period" when proportionately more patients are treated by less staff. In the past, to many of us, summer and the vacation period has meant the possibility of a polio epidemic. The latest reports in the daily press remind us that the danger of outbreak is not to be ignored; we cannot help but share the concern expressed by physicians and scientists. We hope that their fears will prove groundless.

Notwithstanding the vacation period, there may be an opportunity to devote odd moments of time to reading—and writing. Editorial offices have noted that during the late summer and early fall months there is an upsurge in the number of manuscripts received. Do professional persons use their vacations for completion of articles? We suspect that some of them do. These are the persons who sacrifice personal pleasure for personal gratification by sharing their experiences through the media of the written word. To ask that all physical therapists deny themselves a vacation free from work would be absurd. To ask that all physical therapists utilize whatever non-vacation time is available during the summer months for their own professional advancement seems, to us, a sound suggestion. Summer reading in the physical therapy department while waiting for patients "from the floor," or for those who have suddenly left the city for the seashore, will serve the therapist, the patient, and the hospital in good stead. Reading patients' records, reading articles about the patients' disease or conditions, and reading back issues of the medical and hospital journals as well as the *Review* which were overlooked on busier days—all may serve as a stimulus to further reading—and to writing. This may be the summer for you to become an author! The *Review's* Editorial Board will welcome for review the fruits of your summertime efforts.

DOROTHY E. VOSS
Editor-in-Chief

Association News

Marriages

Patricia Bradshaw, of Naugatuck, Conn., now Mrs. Patricia B. Skiff, Naugatuck.
Ann Carew, of Providence, R.I., to James Buckley, Providence.
Julie L. Clover, of Denver, Colo., to Cloyd C. Kerchner, Denver.
Laura Denton, of Kansas City, Mo., to Louis S. Stewart, Kansas City.
Lu Ann Gaudian, of Milwaukee, Wis., to S. E. Joys, Milwaukee.
Sandra S. Harvey, of Eglin AFB, Fla., now Mrs. Sandra H. Beaudoin, Eglin AFB.
Mary J. Havens, of East Palo Alto, Calif., now Mrs. Mary H. Wilson, Honolulu, Hawaii.
Jean A. Holes, of Berkeley, Calif., now Mrs. Jean H. Finke, Redwood City, Calif.
Elizabeth Ives, of Washington, D.C., to William B. Doster, Princeton, N.J.
Carol Jones, of Durham, N.C., now Mrs. Carol J. Coggin, Greensboro, N.C.
Nancy C. Kauffung, of Milwaukee, Wis., to Daniel H. Kazmierczak, Milwaukee.
Constance Kenes, of Hamden, Conn., now Mrs. Constance K. Festa, New Haven, Conn.
Sharon K. Lander, of San Mateo, Calif., to Kenneth Grassmyer, San Mateo.
Mary E. Lowe, of New Haven, Conn., now Mrs. Mary L. Maloney, New Haven.
Sandra F. Marder, of Brookline, Mass., to Joseph Hurwitz, Teaneck, N.J.
Akiko Oyamada, of Berkeley, Calif., now Mrs. Akiko O. Ferguson, Berkeley.
Dorothy Rice, of Richmond, Va., now Mrs. Dorothy R. Clark, Canton, N.C.
Sarah Ridley, of Long Beach, Calif., to Forrest M. Gist, Long Beach.
Betty Salzman, of San Luis Obispo, Calif., now Mrs. Betty S. Liebscher, San Luis Obispo.
Gwendolwn Turner, of New York, N.Y., now Mrs. Gwendolyn T. Martin, Brooklyn, N.Y.
Majorie Umbaugh, of Dayton, Ohio, now Mrs. Marjorie U. Lee, Dayton.
Linda Wessel, of Chicago, Ill., to Sheldon L. Wagner, Chicago.

Chapter News

Oklahoma

Members attending the February meeting heard a pediatric neurologist speak on The Neurological Examination. The speaker supplemented his topic by demonstrating portions of a neurological examination.

Pennsylvania — Central District

At the March meeting panelists for the topic, Orthopedic Problems in Children, discussed hip, leg, and foot deformities, and spinal defects related to posture.

Pennsylvania — Eastern District

The editor's privilege column in "The Paptaed Scoop" March 1960 reads:

"Outside of multiple snow flurries and St. Patrick's Day, March had been rather uneventful but since this is the last issue by this particular editor, it is felt that because March is the time for spring planting (as all alert farmers know), I would like to help you plow your field of thought and insert these suggested seeds:

"First: Plant five rows of *Peas:* They are Presence, Promptness, Persistence, Purpose, and Privilege. Second: Plant three rows of *Squash:* Squash gossip, squash indifference, and squash unconstructive criticism. Then four rows of *Lettuce:* Let us be willing, let us be true to our obligations, let us enjoy our work, and let us love one another. And lastly: Four rows of *Turnips:* Turn up with a determination to be constructive, turn up with enthusiasm, turn up with new ideas, and turn up with a smile."

Tennessee

The *Volunteer Voice*, Spring 1960, reports the district activities for the year, announces the program for the April 30-May 1 Chapter meeting, and news of many physical therapy staffs.

Texas — Southeastern District

A District-sponsored workshop, Preparation for Childbirth, was presented April 18-23, in Houston. Classes for inactive members and nurses were held Monday through Friday, 3:30 P.M. to 5:30 P.M., while active members attended the same days from 7:30 P.M. to 9:30 P.M. The two groups united for the Saturday morning and afternoon classes.

Texas — Central District

In the District's newsletter the contents are identified as: consultation requests—pending district business; proposed treatment—pending meetings; consultants—where you find the answers; active exercise—members activities; tilt table talk—a little of this and that.

Washington

The Chapter conducted a symposium on Recent Advances in Treatment of Brain Injured at the University of Puget Sound, March 26. Following this the Chapter held a business meeting to which admission was permitted after presentation of a current APTA membership card.

Wisconsin

The "cover girl" of the March newsletter is eagerly traveling the path of professional development. Beside her is a sign post pointing to meetings in Milwaukee—April 2; Chicago—May 2; Pittsburgh—June 26-July 1.

Letter to the Editor

Technics for Postural Drainage

Most of the recent literature seems to favor postural drainage as the treatment of choice for bronchiectasis. Based on personal experience I would like to submit these observations regarding technics for postural drainage.

If a patient has a productive cough, it would seem advisable for him to lie down without attempting to get his head lower than the rest of the body until after a large portion of the sputum has been expelled. This suggestion is made for the sake of comfort and convenience as well as successful drainage. In this position the patient can roll from side to side with his hands free to hold Kleenex or a similar disposable material. If a patient, in a prone position, tries to hang his head over the edge of a bed or a divan initially, he will encounter the following difficulties:

1. He must use his hands to support his body while expectorating or put his back muscles under considerable strain.
2. Blood tends to pool in the head and neck from the influence of gravity and a Valsalva-like effect is produced with the exertion of coughing and the tension of the trunk musculature, resulting in a feeling of pressure and fullness in the head and chest.
3. It is difficult to control the muscles of the pharynx in order to expectorate in an upside down position.
4. Mucus tends to run up into the nose unless the patient gets his head in an upright or semiupright position.

My suggestions are:

1. Ask the patient to lie on his back and engage in a series of pumping actions (slow but forced exhalations) to facilitate bringing up the mucus. A small pillow may be used under the head if the patient feels this will add to his comfort.
2. Then, ask him to get up on one elbow (as it seems almost instinctive to try to raise the head while coughing), and cough vigorously.
3. This same procedure should be followed from the right and the left side-lying positions.
4. Following the above three positionings, ask the patient to get on his hands and knees and lower his head and shoulders to the floor—keeping his hips high. He should relax for two or three minutes in this position. If he feels the urge to cough from time to time, he can sit back on his heels and do so. This position is assumed last in an effort to minimize the aforementioned difficulties and still utilize gravity to the fullest extent.

Patients will vary as to the time of day when their coughs are most productive, and their postural drainage exercises should coincide with these times. Some seem to prefer night and morning, but others tend to have tight coughs at these times and prefer to do their postural drainage around noon when their coughs are looser.

A patient may find that drinking a hot beverage before doing postural drainage is helpful; however, it is not advisable to do postural drainage immediately after a full meal.

It may be further stated that an active life in which the patient changes his postural position frequently is more conducive to deep breathing than is a sedentary life; therefore, situations in which coughing is suppressed and a patient is in a static upright position for a long period of time should be avoided or interrupted to do postural drainage.

Last, but not least, a good hearty laugh is good medicine for a person with bronchiectasis as it nearly always results in a good cough.

JESSIE BALL
Physical Therapy Instructor
University of Kansas Medical Center

Carol Vance, Managing Editor, Retires Elsie Milnes Assumes Post

After ten years of association with the *Physical Therapy Review* and three years of employment in the National Office before 1950, Carol Vance resigned her position on June 15, 1960. Miss Vance lent her efforts in every possible way to foster the development of our professional journal. The March 1950 issue first carried her name as Business Manager; and in January 1952 her title as Managing Editor appeared for the first time. Thus, in eight and one-half years, with the assistance of one person, the guidance of the Editorial Board, and consultation from the National Office professional staff, Miss Vance has produced 102 issues of the *Review*. These issues contained 6,668 pages—pages to be created from "copy," to be "laid out," and "proofread." During Miss Vance's period of management the *Review* has grown from a 672-page volume in 1952 to 860-page volumes in 1958 and 1959. This reflects the growth of the profession but, in this instance, it also portrays the years of painstaking work and devoted service of a person to whom the entire Association owes gratitude.

Mrs. Elsie Milnes who has replaced Miss Vance and began her work with the *Review* on June 1, brings to the *Review* a background of excellent experience. Her most recent position was that of Assistant to the Managing Editor of six medical journals published by Paul B. Hoeber, Inc., Medical Book Division of Harper and Bros., New York City. Journals for which she was responsible are *Obstetrics and Gynecology, Laboratory Investigations, Clinical Chemistry, American Journal of Digestive Diseases, Psychosomatic Medicine,* and *Fertility and Sterility*. Mrs. Milnes is a creative writer as well as an editor and has had work published in the *Saturday Evening Post* and produced on NBC Matinee Theatre (TV). *Review* authors and readers may look forward to a continuation of the qualities Miss Vance gave to the *Review* and to further development in keeping with Mrs. Milnes' expert abilities.

New Student Members

U. S. Army
Charlene G. Davis

University of Connecticut
Mary J. Sorensen

University of Wisconsin
Nancy Boek

AHA Institute

November 7-11, 1960, Ambassador Hotel, Los Angeles, are the dates and place for the next Institute for Physical Therapists sponsored by the American Hospital Association. The Southern California Chapter is functioning as host and the preplanning committee has already met to plan an interesting program.

Physical therapists who have attended previous Institutes have been enthusiastic in their comments about content and knowledge gained. To date approximately 500 physical therapists have attended one or more American Hospital Association Institutes for Physical Therapists. Applications and information will be sent to each member sometime in June. We hope you take the opportunity to discuss the program with your administrator and make plans to attend.

The Southern California Chapter American Physical Therapy Association looks forward to welcoming you.

Corinne Wilkin Jack of Walnut Creek, California, passed away February 23, 1960. Mrs. Jack received a bachelor of science degree in physical education at Arnold College in 1933 and her physical therapy certificate at the Hospital for the Ruptured and Crippled in 1939. She was an active member of the Association from 1939-43 and 1954-55, and an inactive member from 1943-1954 and from 1956 until her death. Her chapter affiliations included: Western New York, Kansas, Illinois, Massachusetts, Eastern New York, Tennessee and Northern California.

Laura Borwell, a charter member of the Association, died in Madison, Wisconsin, on May 17, 1960. She was in the first class of Reconstruction Aides in Physiotherapy at Reed College in Portland, Oregan. During the post World War I period she was assigned to army hospitals in Texas and Illinois. Following her military career she had extensive experience in physicians' offices, hospitals, and crippled childrens schools, until her retirement in 1958 when she became a life member of the Association. Miss Borwell was a charter member of the Wisconsin Chapter and served on chapter and national committees. She cherished much of the early history of the Association and contributed to the material used in the issue of the *Review* dedicated to Mary McMillan. Laura Borwell had many friends from World War I days to the present.

Physical Therapy in our Fiftieth State

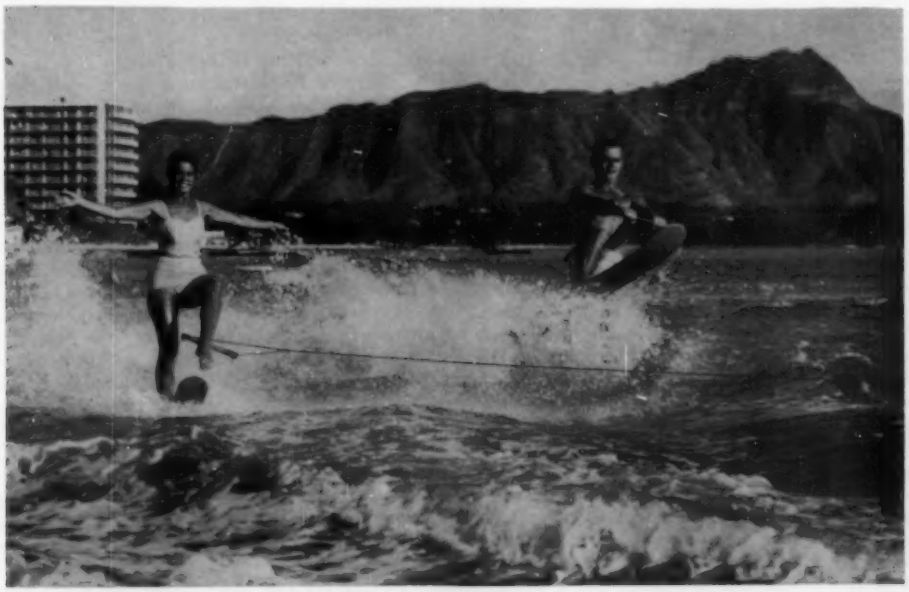
Greetings from the Aloha State—

The Hawaii Chapter is happy to report to members of the APTA. With the advent of statehood we find attention focused upon us, and Hawaii Chapter in the newest and youngest of the states, finds it very apt to join hands across the ocean with you through the medium of the *Review*. What is Hawaii really like for a physical therapist?

"—Let me remind you that so long as sickness shall exist there will be a duty imposed upon us." Thus said his majesty, King Kamehameha the IV, in 1859, upon laying the cornerstone of Queen's Hospital, oldest of Hawaii's hospitals. Much later in 1920 the first physiotherapy department was established in this hospital. As Hawaii's hospitals increased in number, so did physical therapy in Hawaii grow.

Like the rest of the 49 states, Hawaii had its own colorful history of medical practice based upon empirical and clinical findings. Much of the early forms of healing arts such as herb lore, physiotherapy and psychotherapy, were carried on by a few "Kahunas," or health practitioners. Long before the medical missionaries arrived, or even before Captain James Cook discovered Hawaii, the "Kahunas" had practiced physical therapy in the form of "Lomi-lomi" (massage), and steam baths with or without the use of herbs and nut or seed oils. They were especially proficient in the use of salts for bruises and other external injuries. Today with modern facilities and medicines, Hawaii's 30 hospitals have come a long way to render its people superior service that is now second to none.

In 1939 the Hawaii Chapter of the APTA was formed with Barbara Nichols as its first president and a membership of seven. The Chapter in twenty years of growing has increased to 45 members. Inasmuch as the University of Hawaii



Water skiers on Waikiki Beach, with Diamond Head in the background.

does not have a physical therapy curriculum, Hawaii's future therapists matriculate from the west coast across to the east coast, which gives Hawaii Chapter a membership with few schools of physical therapy represented twice.

The members though few in 1945 were ably led by Miss Nichols and helped to formulate the Board of Health Act, Chapter 19, which is the present Regulatory Act for practice of physiotherapy in Hawaii. Only last year the word "physiotherapy" was expunged from the Act and "physical therapy" was inserted by a gubernatorial act.

Since 1920 when the first physiotherapy department was established, Hawaii has had an influx of mainland-trained therapists who found the island trade winds to their liking and stayed on to help establish physical therapy departments over the entire island chain. This chain is composed of eight different volcanic islands which simply rose up from the ocean floor and, unlike many islands that lay offshore continents, Hawaii's volcanic islands are more than 2,000 miles from the nearest continent, the United States. Only hours away by jet travel from the mainland, Oahu the capital island, site of Waikiki beach and metropolitan Honolulu, is the mecca and main link in the island chain.

Here too are found the largest and most modern hospitals in the islands where most of the therapists are engaged. The oldest hospital, (Queen's) employs three therapists headed by their chief, Frances Knowlton; Nancy Bader, our Chapter program chairman, and Virginia Matson. They are now going through the throes of a $1,200,000 building and renovating program. Largest of the hospitals is the gigantic 1,500-bed Tripler U. S. Army hospital, which towers over the horizon on Halawa Ridge. Its physical therapy service is open to servicemen and their dependents in all branches of the military and also serves Hawaii as a veterans' hospital. Chief therapist is Major Corrine Rizzo who states that serving *all* branches of the military means just that—from a sailor on remote Wake Island to an army general stationed in Hawaii. Major Rizzo is ably assisted by Major Amelia Amizich, winner of no less than three consecutive golfing championships in Hawaii; Major Alice Valentine; Lt. Howard Appleby; Capt. Ann Gamsbo; Lt. Nancy Hanson; Lt. Joyce McDowell; Capt. Frances Parks; enlisted man Harold Gold, an APTA member; and Lt. Dorothy Vollmer, our Chapter secretary. Another general hospital is the St. Frances where we find Myrtle Hirokawa, who is looking for a replacement since a late summer wedding has been planned. Newest hospital in Honolulu is the Kaiser Foundation Hospital, a push-button 120-bed facility whose therapist, Barbara Nash, reports the work load so heavy that apparently the work there is no "push-button" deal. Small and large clinics abound in Honolulu and one of the largest private clinics is the Straub Clinic located in the heart of Honolulu. Thomas Kim works here with Elaine Fee, and Maureen Gulick. Across the Thomas Square park from Mr. Kim and his group we find Richard Hirokawa serving a similar purpose in a facility called the Medical Arts Building. A short distance away at the Medical Group clinic Joyce Petersen recently took over the P. T. department and we hope to see her soon as a full-fledged member.

Our Vice President, Carlyn Daughters Dasinger, is a new bride and is employed at the Rehabilitation Center of Hawaii. She seems delirious in her praises and enthusiasm for her work inasmuch as this is the most modern physical plant (with a rolling sky roof over the pool). A stone's throw from the Rehab center is the Maluhia Home. It is situated high on Alewa heights and from here our legislative chairman, Eric Crabbe works alone and manages to keep a judicial eye over the affairs of our Chapter. Traveling north from Honolulu through the picturesque Nuuanu Pali (cliff), we come upon the Hawaii State Hospital that lies on the slopes of the verdant Koolau ranges. It dates back more than 100 years in its care for more than 1,200 psychiatric patients. Sibyl Vorheis and Ronald Oba, Chapter President, treat the psychiatric as well as the other types of patients in this sprawling institution.

Going around the island toward the opposite end is another member, Thelma Johnson, who works at distant Wahiawa General Hospital. Traveling more than half an hour's distance in the islands is considered such a tremendous hop that most new mainland therapists laugh at the local peoples' idea of space and time. I must chuckle vicariously over this; but whether it is our reluctance to travel or not, the telephone company people say that next to Alaskans, the Hawaiians are the "gabbiest" people in the world, averaging 536 calls per person per year.

Shriner's Hospital for Crippled Children cares for youngsters of all races so that it keeps chief therapist Ruth Aust and Nancy Andringa in a whirl of activity. Miss Aust who gave up her office but still does some private work states that she enjoys making use of the outdoor modalities of the trampoline, training bicycle, and games of croquet on the lawn. The therapists wear brightly colored muumuus, a Hawaiian garment,

instead of the austere white uniforms. In addition to the Shriners, there are several other organizations that care for the crippled child. At the Sultan National Society for Crippled Children and Adults, Ethel Theilman works with a team of occupational and speech therapists in a nursery school situation which affords these children a superlative type of care. In a wing of the St. Francis Hospital a recent addition is the Cerebral Palsy Center where Robin Morely works part time. A great proportion of the crippled children's work is carried by the State Department of Health. Their services embrace the entire island chain and their therapists make monthly trips to the various islands. Physical therapy consultant, Paula Sorg, describes these trips as "itinerant rural home visits" that are made at the health clinics with or without a consulting orthopedist. Raymond Hatate, Clifford Liu, Glenda Barnes, and Evelyn Musacchia complete the staff.

Kauai, or the garden island, is situated on the northernmost part of the island chain; and this island above all others seems to be the lushest and most verdant of all. It has been the setting of many Hollywood movies including "South Pacific." Touching down at the Lihue airport and driving to the Wilcox Memorial Hospital, we find Ann Croy, a devoted and efficient worker in her department. Like Miss Croy, Miriam Mukai on the island of Maui, at the Maui Memorial Hospital, carries on in a similar capacity. Maui is called the "Valley island" owing to its topography and the vales and gorges ubiquitous to the island. The last and southernmost of the islands is the largest and is called the "Island of Hawaii," the namesake of the entire island chain. Active volcanoes still are the chief topic of news whenever one of them erupts. This perhaps is the only place on earth where tourists and native alike rush forth to see a volcano in action.

Also under the health department but in another capacity is Arloa Ridder who works at Hale Mohalu which houses the patients with Hansen's disease. Her work also takes her to the island of Molokai at Kaluaupapa where most of you have read or heard so much of Father Damien's work. She spends a few weeks a year on Molokai in a supervisory capacity.

Despite the apparent illusion of feasting and dancing throughout the year, Hawaii is noted for attracting eminent scholars and educators to its shores. The Hawaii Chapter is quick to capitalize on these talents and invariably arranges a lecture or two by these people in order to glean the latest trends. Not to be outdone by our mainland consorts, our own Major Amizich demonstrated the Neuromuscular facilitation method; and nearly everyone took a ten-weeks' course on the Bobath's method of treatment, presented by Betty Van Slyke at the University of Hawaii.

When the summer is too hot or the winter is too deep in snow, remember, Hawaii beckons you to its fair isles. Some day we hope that a post conference group can make it all the way to the islands. All of us join in sending you Alohas from the 50th State.

ALOHA NUI LOA
Hawaii Chapter, APTA

1960-61 Dues Payable Now

Annual dues were payable May 1. To avoid loss of membership privileges and to receive the *Physical Therapy Review* without interruption, prompt payment is necessary. Your immediate response will be appreciated as a service to the Association.

SHORT TERM COURSES FOR GRADUATE PHYSICAL THERAPISTS

Title of Course	*Sponsor of Course*	*For Details Contact*	*Dates of Course*
Cerebral Palsy	The North Carolina Cerebral Palsy Hospital Durham, North Carolina	Dr. Lenox D. Baker Medical Director No. Carolina C. P. Hosp. Durham, North Carolina	Courses arranged according to individual need—duration 3 months
Physical Therapy in the Care of Neuromuscular Disease	Georgia Warm Springs Foundation Warm Springs, Georgia	Robert L. Bennett, M.D. Medical Director Ga. Warm Springs Found. Warm Springs, Georgia	January April October
Technics of Neuromuscular Reeducation	California Rehabilitation Center Vallejo, California	Margaret Knott, Chief P. T. Calif. Rehab. Center Vallejo, Calif.	January 1 April 1 July 1 October 1
The Third International Prosthetics Course (742 I)	Prosthetics Education, PG-MS New York University in cooperation with the International Society for the Welfare of Cripples 550 First Avenue New York City	Dr. Sidney Fishman	August 15—26, 1960
P.T. 502-a—Anatomy for Therapists	University of So. California Physical Therapy Department University Park Los Angeles 7	Mrs. Roxie Morris Professor of Physical Therapy	August 1—26, 1960
Advanced Physical Rehabilitation Methods for Physical/Occupational Therapists	New York University Medical Center—Institute of Physical Medicine and Rehabilitation (in cooperation with New York University School of Education	Mrs. Edith Bauchwald Lawton, Director, Postgraduate Education for Paramedical Personnel, New York University Medical Center, Institute of Physical Medicine and Rehabilitation, 400 East 34 Street New York 16, N. Y.	Nov. 14—Dec. 9, 1960 Jan. 30—Feb. 24, 1961 Apr. 24—May 19, 1961
Treatment for the Cerebral Palsied	Children's Rehabilitation Institute for Cerebral Palsy Reisterstown, Maryland	Christopher H. Wiemer Executive Director Children's Rehab. Inst. Reisterstown, Maryland	July 5—Sept. 16, 1960 Oct. 3—Dec. 16, 1960

Don't Fail . . . . .

To notify the *Review* when you leave school for clinical practice, go home for a vacation, or take a new position.

If you have not decided upon your new location, write and ask that your *Reviews* be held until you can furnish an exact address—which includes *postal zone number!*

Physical Therapy Review
1790 Broadway, Room 310
New York 19, N. Y.

Coming Meetings

International Meetings

Aug. 21-26	Third International Congress of Physical Medicine, Mayflower Hotel, Washington, D.C.
Aug. 28-Sept. 2	International Society for the Welfare of Cripples, Eighth World Congress, Waldorf Astoria, New York City

Education

APTA-OVR Graduate Study Traineeships for Physical Therapists

The American Physical Therapy Association has received a grant from the U. S. Office of Vocational Rehabilitation to administer traineeships for graduate study:

1. Traineeships for study leading to a masters degree—$2400 per calendar year
2. Traineeships for study leading to a doctorate by candidate with masters degree

   $2800 — first year
   3200 — second year
   3400 — third year

3. Traineeships for study leading to a doctorate by candidate with bachelors degree

   $2400 — first year
   2800 — second year
   3200 — third year

Traineeships *may* be awarded for a period not to exceed two calendar years of study.

Purpose of Program

To assist the Association in its efforts to increase the supply of physical therapists who are qualified by experience and graduate study for teaching, research or other positions of leadership.

Eligibility Requirements

1. Member of the American Physical Therapy Association.
2. Baccalaureate degree from a regionally accredited college or university.
3. Minimum of two years of experience in the clinical aspects of physical therapy.
4. Citizen of the United States or lawfully admitted for permanent residence.
5. Recipients of other Federal educational benefits are ineligible.

Additional Requirements

1. Acceptance by the graduate school of choice.
2. Evidence of physical and mental health.
3. Proposed full time program of study, leading to an advanced degree, which would better prepare candidate for subsequent work in administration, supervision, teaching, research or additional clinical responsibilities in physical therapy.

Suggestions to Applicants

Physical therapists interested in graduate study and in applying for an award are encouraged to:

1. Make inquiries of graduate schools.
2. Have credits evaluated at graduate school of choice.
3. Discuss plans with faculty members.
4. Outline the expected program of study.
5. Complete and submit an application. Forms are available from the American Physical Therapy Association.

Deadlines for Applications

Applications will be reviewed by the Association's appointed Committee periodically throughout the year. Awards will be made in August, November and April. A personal interview may be requested.

Applicants will be notified of Committee action. Reasons for non-acceptance of an application for award will not be disclosed. The decision of the Committee is final.

To be considered by the Committee, *all* credentials (application, approved program of study, photograph, letter of acceptance, letters of reference, transcripts) *must* be received in the APTA office as follows:

1. No later than July 1 for applicants beginning their program of study in September-October.
2. No later than October 1 for applicants beginning their program of study in January-February.
3. No later than February 1 for applicants beginning their program of study in June.

Obligation

It is hoped that the recipient of an award will feel a responsibility to accept a position, on completion of the program of study, which will contribute toward the fulfillment of the stated purposes of the traineeship program.

CME High Lights

The junior class of the School of Physical Therapy within the College of Medical Evangelists presented a promotional-type program to the La Sierra Academy (high school), Arlington, California. Students showed interest; the program was educational as well as entertaining. The program consisted of demonstration and explanation of various modalities in physical therapy.

Treatments demonstrated were:

1. Early hydrotherapeutic treatments given by the Greeks of Hippocrates time as well as heliotherapy.
2. The giving of up-to-date hydrotherapeutic treatments in the form of alternate hot and cold to the chest following chest surgery.
3. The use of electrotherapy using the muscle-stimulator.
4. The use of a few posture correction exercises.

Participants on the program were: Lee Charboneau, Tom White, Eleanor Lohr, Alma Swena, Roger Aycock, Ted Dawson, Reuben Lorenson, Margie Cobb, Jim Cruise, Roy Wightman, and Mr. Robert Kyle, one of the instructors.

One area deserves special attention. Our therapeutic exercise program at CME has been expanded to cover therapeutic gymnastics. This is the first year that this course has been a part of our curriculum and we feel that we are justly proud of it.

Mrs. Esther Svendsen, a physical therapist trained in Scandinavia, is teaching the program at CME. She has directed the senior class in presenting this program to our local elementary school and has made a contribution in the correction of many of their postural defects.

The class of 1961 recently elected their officers for year 1960-61:

President—Roy Wightman
Vice President—Tom White
Secretary-Treas.—Margie Cobb
Chaplain—Bert Beiler
APTA Rep.—Vernon Jaeschke
Editor—Reuben Lorenson
Social Activities—Alma Swena
Sports Director—Andy Myers

BERT L. BEILER
Junior class, A.P.T.A. Representative

Films of Interest

CHILD PROSTHETICS PROJECT: A REPORT—22 min., b/w, sd. Rental. Inquire nearest film library or Department of Visual Communication, University Extension, University of California, Los Angeles 24, California. This film reports on the activities of the prosthetic team and demonstrates how the team integrates the disciplines involved in amputee research at U.C.L.A.

WHEELCHAIR SCHOLARS—10 min., b/w. Rental. Nearest film library or Department of Visual Communication, University Extension, University of California, Los Angeles 24, California. A documentary showing how the physical and academic facilities of a large university (U.C.L.A.) are adapted to the needs of wheelchair students.

STRESS AND THE ADAPTATION SYNDROME—35 min., color. Free. Pfizer Medical Film Library, 267 W. 25 Street, New York 1, N.Y. Presents the concept of stress as developed by Dr. Hans Selye by recapitulating the original experiments and intrepretation. Development of adaptation syndrome is graphically illustrated. Discusses application of findings to clinical medicine.

STILL GOING PLACES: ACTIVE MANAGEMENT OF DISABILITY IN THE AGED—40 min., b/w. Free. Pfizer Medical Film Library, 267 W. 25 Street, New York 1, N.Y. Demonstrates practical ways in which chronically ill or acutely disabled patients of advanced years can be helped to live useful, self-sufficient lives.

PROBLEMS OF THE MIND IN LATER LIFE—33 min., b/w, sd. Wm. S. Merrell Company, Medical Audio Visual Department, Cincinnati 15, Ohio. A documentary film of the 1956 Merrell symposium on Constructive Medicine in Aging. Flash-back technique brings out ideas of the various speakers.

A PLACE TO LIVE—24 min., b/w, sd. Wm. S. Merrell Company, Medical Audio Visual Department, Cincinnati 15, Ohio. A winner at the Edinburgh Film Festival, this film honestly portrays some of the problems of old age and moves toward a possible solution; a home for the aged.

A TWO-YEAR-OLD GOES TO HOSPITAL—50 min., b/w, sd., 1952. Rental. New York University Film Library, 26 Washington Place, New York 3, N.Y. A 2-year-old girl's reactions to an 8-day stay in the hospital and some of the effects of her temporary separation from her parents are shown in this film produced at Tavistock Clinic, London. The English hospital procedures depicted differ from those in our hospitals.

CEREBRAL VASCULAR DISEASES: THE CHALLENGE OF MANAGEMENT—38 min., b/w, sd. Rental: 1 day, $5.00; 2 days, $7.50. American Heart Association Film Library, 267 W. 25 Street, New York 1, N.Y. Concepts and techniques basic to the management of persons who have suffered cerebral vascular accident.

BACK ON THE JOB—16 min., b/w, sd. Rental: 1 day, $3.50; 2 days, $5.00. American Heart Association Film Library, 267 W. 25 Street, New York 1, N.Y. Shows steps taken by a cardiac work evaluation unit in returning a middle-aged cardiac patient to his former job.

Guide To Graduate Education

Any physical therapist contemplating a program of advanced study is encouraged to inquire of several colleges or universities in order to find a program compatible with his interests and needs.

A wide variety of programs is available throughout the United States and Puerto Rico. The following list is indicative only of some opportunities in the universities which offer approved courses in physical therapy.

Some areas of major study on masters/doctoral level	*Location of course*	*For information/bulletin, contact:*
2-10	College of Medical Evangelists Loma Linda, Calif.	Keld J. Reynolds, Ph.D. School of Grad. Studies
1-2-3-4-5-7-9-10-11-12	Stanford University Palo Alto, Calif.	Rixford K. Snyder Director of Admissions
8	Division of Physical Therapy Stanford Med. Center	Marian Williams, Ph.D.
2-5-9-10-11	Grad. Div., Northern Section U. of Calif., Berkeley 4	Dean of Graduate Division
	U. of So. Calif., Los Angeles 7	
1-2-5-6-10-11-12	Graduate School	Milton Kloetzel, Dean
8	P. T. Department	Margaret S. Rood
	University of Colorado	
2	Medical Center, Denver 20	A. R. Buchanan, M.D.
8		Dorothy Hoag
10		C. A. Maaske, Ph.D.
5-9-11	Graduate School, Boulder	Office of Admissions
1B-5-9-11-12	U. of Conn., Storrs	N. L. Whetten, Ph.D. Dean, Graduate School
1A-2-3-5-6-8-9-10-11-12	Grad. Sch., Northwestern U. Evanston, Ill.	Mrs. Janet L. Green Secretary for Admissions
	Indiana University	
9-11	Grad. School, Bloomington	J. W. Ashton, Ph.D., Dean
4-5	Sch. of Ed., Graduate Div. Bloomington,	H. T. Batchelder, Ph.D. Associate Dean
2-10	Sch. of Med., Indianapolis	John Van Nuys, M.D., Dean
2-5-9-10-11-12	*State U. of Iowa, Iowa City	W. F. Loehing, Dean, Grad. Coll.
8	Children's Hosp.	Wm. D. Paul, M.D.
2-4-5-9-10-11	University of Kansas Lawrence	John H. Nelson, Ph.D. Dean, Graduate School
	University of Maryland	
1-3-5-6-7-9-11-12	Graduate School, College Park	For either: Ronald Bamford Ph.D.
2-10	Sch. of Med., Baltimore 1	Dean, Graduate School
	Boston U., Boston, Mass.	
1-2	Graduate School	Edward K. Graham, Dean
5-6	School of Education	Donald Hayes, Registrar
1-2-3-5-9-10-11-12	University of Michigan Ann Arbor	Admissions Office, Horace H. Rackham, Sch. of Grad. Studies

1—Administration
1A—Hosp. Administration
1B—Bus. Administration
2—Anatomy
3—Chemistry
4—Education including Guidance & Counseling
5—Education
6—Guidance & Counseling
7—Human Relations
8—Physical Therapy
9—Physics
10—Physiology
11—Psychology
12—Others

* Partial credit of basic Physical Therapy program towards masters degree *if* student meets Graduate School requirements.

Some areas of major study on masters/doctoral level	*Location of course*	*For information/bulletin, contact:*
1-2-3-5-6-9-10-11 8	The Graduate School U. of Minnesota, Minneapolis	Theodore C. Blegen, Dean Mrs. Ruby M. Overmann
1A-5-9-10-11	St. Louis University St. Louis, Mo.	Robert J. Henle, S.J., Ph.D. Dean, Graduate School
1A-1B-2-3-4-5-6-9-10-11-12	Washington University St. Louis 30, Mo.	Lewis E. Hahn, Ph.D., Dean Graduate Sch., Arts & Sciences
2-3-9-10-11-12	Columbia U. New York 27 Faculty of Pure Science Morningside Heights	Prof. Marshall Kaye
1-5-6-7-11-12	Teachers' College 525 W. 120 St. New York 27	Admissions Office 525 W. 120 St. NY 27, NY
	*New York U., New York 3	
2-9-10-11-12	Grad. Sch., Arts & Sciences	Office of Admissions
1-5-6-7-8-11-12	School of Education	Office of Admissions
	U. of Buffalo, Buffalo 14, N.Y.	
2-9-10-11	Grad. Sch., Arts & Sciences	H. M. Woodburn, Dean
1-5-6-12	School of Education	Robert S. Fisk, Dean
1A-2-3-5-9-10-11-12	*Duke University, Durham, N.C.	Dean of Graduate School
1B-2-3-4-5-9-10-11-12	Grad. Sch., U. of N. Carolina Chapel Hill	George A. Heard, Ph.D. Dean
1-2-3-5-6-9-10-11-12	Grad. Sch., Ohio State U. Columbus 10	Dean of Graduate School
	University of Oklahoma	
3-4-5-9-11-12	Graduate College, Norman	For either: Dean of Grad.
2-10-12	Medical Center, Okla. City	Coll., U. of Okla., Norman
2-4-5-7-9-10-11-12	U. of Pennsylvania, Phila. 4	Grad. Sch., Arts & Sciences
2-3-10-12	Baylor U. Med. Center, Dallas, Tex.	For either: Div. of Grad. Sch.
2-3-10-12	Grad. Resch. Inst., Dallas, Texas	Baylor U., Waco, Tex.
2-10	U. of Texas—Medical Branch Galveston	Donald Duncan, Ph.D. Assoc. Dean of Graduate School
2-10	Medical College of Virginia Richmond 19	Ebbe Hoff, Dean Sch. of Grad. Studies
	Marquette U., Milwaukee 3, Wis.	
2-5-9-10-12	Graduate School	Lawrence W. Friedrich, S. J. Dean
8	PT Curriculum, Sch. of Med.	Beth Phillips, Director
1-2-3-4-5-7-8-9-10-11-12	Graduate Sch., U. of Wisconsin Madison 6	Dean, Graduate School 150 Bascom Hall

Schools Offering Courses in Physical Therapy

The listing of undergraduate programs which has appeared monthly in the *Review* will now be published four times a year in the March, June, September, and December issues. The listing last appeared in the June issue and will be published next in the September issue. Each month the issue in which the listing was most recently published will be identified in the Table of Contents under Regular Features.

Abstracts

The Present Status of Oral Vaccination Against Poliomyelitis and Future Problems

C. E. van Rooyen and R. L. Ozere (Dalhousie University, Halifax, Nova Scotia), CANAD. M. Ass. J., 82:759-766, Apr. 9, 1960

The future control of epidemic poliomyelitis would appear to be through the displacement of wild virus by mass feeding of the population with attenuated virus. This same principle has been and could be employed as a procedure for attempting to halt the spread of epidemics. Over 13 million persons have received attentuated virus without untoward effect. Objection to its continued use on the grounds of exaltation in monkey neurovirulence after human contact passage, may prove to be more a theoretical than a practical disadvantage. Evidence suggests that enteroviruses prevalent in summer time may interfere with a "take" by live poliomyelitis oral vaccine. Therefore, Salk vaccine, being an injectable product, possesses an obvious advantage in this respect.

Since Type I virus is the prevalent and virulent epidemic strain in North America, both the live vaccine and Salk vaccine should have strong specific antigenicity against this virus type. In the oral vaccine, if a trivalent product is to be used, it should be balanced in such a way that Types II and III will not interfere with a "take" by Type I.

For a successful program, the live virus should be applied uniformly throughout the entire population. Failure to vaccinate infants will shift the normal age susceptibility group in North America so as to create a situation similar to that pertaining in the tropics, where infants constitute the most vulnerable segment of the population.

In the existing state of knowledge it is difficult to predict what will be the most effective and durable future immunization schedule against poliomyelitis. Perhaps the use of an attenuated poliomyelitis vaccine will necessitate booster doses. The process of artificial infection may have to be repeated more frequently to maintain the level of herd immunity comparable to that derived from natural "wild" virus infection.

To overcome possible enteroviral interference effects in large-scale oral vaccination programs, Salk vaccine should be continued, especially in the infant group under two years of age. For the same reason, live virus programs, when initiated, should be conducted during the winter months.

The choice of strains to be used in live vaccine is important. The present emphasis and quest for more avirulent strains might lead to the adoption of vaccine strains sufficient for the purpose of displacing wild virus but inadequate for the maintenace of long-term herd immunity. The use of such strains over a period of several years could result in progressive deterioration of the antibody status of the population, with a corresponding increase in susceptibility to virulent poliomyelitis virus.

Since the epidemiology of poliomyelitis differs between tropical and temperate climates, the results of oral vaccine field trials conducted in the former are not necessarily applicable to the latter. Before mass immunization with live virus can be attempted in Canada, extensive field trials with integrated laboratory studies are necessary to ensure genetic stability, antigenicity, and avirulence under our normal living conditions.

Comparison of Intra-Articular Cortisone Analogues in Osteo-Arthritis of the Knee

M. J. Kehr (Charterhouse Rheumatism Clinic, London, England) ANN. RHEUMAT. DIS., LOND., 18:325-328, December 1959

Twenty patients suffering from osteo-arthritis of the knees were given injections of three different steroids (Effcortelan, Codelcortene, Ultracortenol) for the purpose of: (1) comparing the three preparations; (2) determining the value of intra-articular steroids in osteo-arthritis of the knees.

Before the first injection, the degree of movement of the affected joint was roughly assessed, and the joint was measured just above the patella to estimate the amount of swelling. The patient was asked to keep a record of any changes in the degree of pain following the injection. A week after the first injection each patient was checked. If there was no improvement, a different steroid was used. If pain was already alleviated, no further injection was given until symptoms recurred. The patients received no other treatment during the trial.

Only three patients failed to derive any benefit from treatment. Eight obtained relief lasting a month or more. Some of these had had long courses of physiotherapy and/or analgesics previously. A marked divergence was shown in the reaction by some of the patients to the three types of steroids used.

The author feels that intra-articular steroids are the treatment of choice in osteo-arthritis of the knees, whether there is swelling or not, and that steroids are superior to analgesics, physiotherapy, and the injection of other compounds. No conclusive evidence was found that one steroid was superior to another, but the trial indicated that if one steroid fails to give relief, it is worth trying another.

Ankylosing Spondylitis

Donald Graham (Department of Medicine, University of Toronto, Toronto, Canada), CANAD. M. Ass. J., 82:671-679, March 26, 1960

Ankylosing spondylitis is an inflammatory disorder of unknown etiology that involves not only the sacro-iliac and apophyseal joints of the spine, but also bony surfaces at sites of ligamentous, fascial or muscular attachments; synchondroses such as the manubrio-sternum, xiphisternum, symphysis pubis, and intervertebral discs; frequently the costo-vertebral articulations, and at times, one or more extra-spinal or peripheral joints. Some degree of ankylosis of the affected joints, and calcification or ossification in the annulus fibrosus of intervertebral discs and in paravertebral tissues and ligaments, are commonly but not invariably present.

The relationship of ankylosing spondylitis to rheumatoid arthritis remains to be clarified but the weight of evidence at present favours the concept that these two diseases are separate entities.

Ankylosing spondylitis begins characteristically in early adult life, between the ages of 18 and 35 years in 85% of patients. Males are affected 9 to 10 times as frequently as females.

The following general measures constitute the fundamental principles of care of the spondylitic patient: (1) The provision of adequate rest. (2) The use of a firm, nonsagging sleeping surface with boards

under the mattress. (3) Daily physical therapy procedures involving the application of suitable forms of local heat followed by a specific program of therapeutic exercises, including deep breathing and constant observance of proper postural habits. (4) Maintenance of optimum nutrition. (5) When required for relief of pain and stiffness, the regular administration of salicylates in adequate doses which may amount to as much as four, or occasionally five, grams daily.

Communication with the Patient

Ainalie Meares (Melbourne, Australia), LANCET, 1:663-667, March 26, 1960

The process of communication between patient and physician is a complex multi-channel system in which each separate channel is communicating different information at the same time. The patient may be talking of one matter, but he is unintentionally informing the physician of other matters.

There are six main channels through which a physician may gain information: (1) literal verbal communication is the logical use of words by which the patient tells his story; (2) extraverbal communication is conveyed by the implied meaning of the words; (3) unverbalised phonation is the language of grunts and groans; (4) expression is used consciously and unconsciously to communicate ideas; (5) posture and gesture are consciously produced to convey a meaning; and (6) behavior expresses ideas almost as clearly as words, especially silence, which may be charged with meaning.

The messages which the physician may receive through the various channels include the patient's history and symptoms, his emotions and attitudes. The different channels of communication belong to different periods of biological development. Nonverbal communication in general is more primitive than logical verbal expression. Extraverbal communication is more recent and more advanced than logical verbal expression. Illness may leave a patient with only a primitive means of expression. In everyday life, some people show a tendency to use one channel of communication in preference to others. These tendencies seem to be determined by racial and cultural influences, as well as by individual personality structure. In certain types of psychiatric conditions there are gross changes from one type of communication to another.

Communication may also have barriers which operate at different levels of psychological integration according to the nature of the ideas concerned. A patient may not be willing to express himself because the matter may be humiliating, or he may put it out of his mind simply because he cannot tolerate it, or he may repress it completely beyond his consciousness.

Since this is a two-way process of communication, the physician, by verbal and nonverbal means, is conveying a message to the patient. The physician who would be sensitive to what is going on in the patient's mind must learn the language of the various channels of communication.

Birth Injuries to the Spinal Cord

Harvey R. Leventhal (Department of Neuosurgery, Grace New Haven Hospital, New Haven, Conn.), J. PEDIAT. 56:447-453, April 1960

Birth injuries to the spinal cord are not seen as frequently as they formerly were because of better obstetric technics. They do continue to exist, however, as a clinical problem in obstetrics and consequently in neurosurgical management. The general classification of birth injuries usually include asphyxia, fractures and dislocations, injuries to nerve trunks, and intracranial damage; however, there is scant mention of injuries to the spinal cord and only an occasional warning of the dangers of applying excess traction during delivery.

The spinal cord is generally injured at the cervicothoracic junction and is caused by excessive traction on the legs during a breech presentation.

The author points out that the infantile vertebral bodies are a series of elastic cartilages surrounded by inelastic connective tissue. In a breech delivery when traction is applied to the legs and the head is held tightly by uterine contraction, the entire column may be stretched to the point of rupture of the meninges and cord. The cord is anchored firmly below by the lumbar roots and above by the large cervical roots and medulla but there is little support to the thin, relatively fine roots in the thoracic area. Rupture of the dura mater and leptomeninges are commonly observed at autopsy but rarely is there damage to the bony column.

Clinically, there is paraplegia, loss of sweating below the lesion, loss of sensation to pin prick, bowel and bladder incontinence, and in some instances, scoliosis.

The treatment is supportive. The children are prone to bladder infections and pneumonic processes. Orthopedic procedures, braces and physical therapy are necessary and important adjuncts. These children can usually attend school and are capable of ambulating with crutches and braces.

The case histories of six patients with birth injuries to the spinal cord are presented.

Peripheral Entrapment Neuropathies of the Lower Extremity

H. P. Kopell and W. A. L. Thompson (New York University Post-Graduate Medical School), N. ENGLAND J. M., 262:56-60, January 14, 1960

An entrapment point occurs in the course of a nerve where the anatomic configuration may cause constriction of the nerve, or if trauma has occurred to the area, the particular anatomic disposition will maintain the nerve in a state of inflammation. Nerves affected may be sensory, motor or mixed. A significant characteristic is rest pain, frequently more severe at night. Pain is usually peripheral to entrapment; and properly applied pressure at entrapment points may reproduce the peripheral pain. The nerve trunk is often tender distal to the point. Skin sensory changes and/or muscular atrophy and weakness may result. Injection of an anti-inflammatory agent into the area will usually relieve symptoms. This response serves as a basis for further therapy. Continuing nerve irritation at the entrapment point may lead to secondary autonomic-nervous system hyper-function.

The more obvious entrapment points in the lower extremity are: 1. sciatic nerve at the pelvic exit, 2. obturator nerve at its pelvic exit, 3. lateral femoral cutaneous nerve as it pierces the attachment of the

inguinal ligament just below the anterosuperior spine, 4. peroneal nerve as it crosses the lateral aspect of the fibular neck, 5. posterior tibial nerve in ankle and foot and, 6. digital nerve at the transverse tarsal ligament.

Chief diagnostic difficulties in making peripheral nerve diagnoses are: 1. considerations of lumbar spine as causal locus when patient has concurrent low back derangement, 2. diffuse nerve trunk tenderness, 3. atypical pain distributions, 4. secondary intervention of the autonomic nerve system, and 5. presence of more obvious injuries focusing attention away from entrapment.

Observations on Adult Hemiplegia and Suggestions for Treatment

Part II. Berta Bobath: (The Western Cerebral Palsy Center, London, England), PHYSIOTHERAPY, 46:5-14, January 1960

Most hemiplegic patients come for physical therapy treatment during the stage of spasticity. The muscles most commonly affected are the flexors of the arm and the extensors of the leg. Due to the influence of tonic reflex activity, the degree of spasticity varies with the position of the head and proximal joints; and the effect of spasticity on the patient's ability to move is best seen by testing for resistance to those patterns of movement which the patient is unable to perform—for example, flexion of the knee with the hip extended if the patient's voluntary movements are limited to a total pattern of extension in the leg and flexion in the arm.

Treatment of these patients is a continuation of the flaccid stage (described in part I). Further breakdown of the total patterns enabling more independent movement for functional activities is the objective. The author describes exercises designed to achieve this goal. Because of the extensor thrust the spastic hemiplegic has difficulty supporting his weight on the affected leg when it is flexed. To counteract this tendency the patient is asked to practice standing from a sitting position in the following way: sitting on a straight chair, hands on the physical therapists' shoulders, the patient leans forward with his affected leg well underneath him so weight is forced onto his leg. As he stands up the physical therapist presses down on the knee, putting more weight on it, and at the same time pulls the knee forward to prevent sudden extension. One of the activities suggested to break the arm synergy, and facilitate grasp in any position, is to have the patient hold a towel between thumb and first finger and maintain grasp while the physical therapist moves the towel in all directions. All of the suggested exercises stress maximum use of the affected side and encourage weight-bearing on both the leg and arm.

During the stage of late recovery the patient is capable of performing gross activities, but the localized, fine movements are difficult. The stereotyped patterns are broken up still further. The therapist prevents motion in the proximal joints while movements of hand, wrist, and ankle are practiced. Thus the patient gains control of hand and foot independent of the position of the arm and leg. (Many other exercises are described and diagrammed in detail.)

A Clinical and Electrical Study of Ulnar Nerve Lesions in the Hand

Peter Ebeling (Royal Melbourne Hospital, Melbourne, Australia), R. W. Gilliatt and P. K. Thomas, J. NEUR., LOND., 23:1-9 February 1960

The ulnar nerve may be compressed at the wrist or in the palm and gives rise to a distinct clinical syndrome of weakness of the small muscles of the hand with or without sensory loss. Often there is a history of repeated trauma due to occupation although in other cases, a single injury to the wrist or hand may precipitate the symptoms.

The authors review the anatomy of the ulnar nerve as it enters the hand and from the clinical and anatomical considerations, three groups or types of lesions are presented: Group 1 is the largest and is characterized by (1) weakness of the hand muscles supplied by the ulnar nerve with the exception of the hypothenar group, and (2) no sensory loss. A lesion involving the deep palmar branch of the nerve after the branches to the hypothenar muscles have been given off gives rise to this distribution of muscle weakness. A second group is described in which (1) all the intrinsic hand muscles supplied by the ulnar nerve are affected, and (2) there is no sensory loss. The lesion in these cases is proximal to the nerve branching to the hypothenar muscles. A third group is characterized by (1) involvement of all intrinsic muscles supplied by the ulnar nerve, and (2) there is coexistent sensory loss. This represents a lesion of the ulnar nerve trunk or of its two branches shortly after the trunk has divided.

Nine case histories are presented in which electrical investigations were carried out. Motor nerve conduction in the hand and above the wrist were studied using an electromyograph. Marked increase in latency was observed in nearly every case in the interosseous muscles. Values up to 29 milliseconds were obtained for the conduction time in the short segment of nerve between the wrist and the affected muscle. Motor nerve conduction times are presented in table form for the method of stimulating above the wrist, at the elbow, and in the axilla.

Spontaneous improvement of function occurred without operation in five patients and in three of them, recovery was complete; two patients are making steady improvement; in one patient, improvement was apparent in two months; in three patients, 5-7 months elapsed before beginning recovery was noted; another patient who had onset of symptoms at least 18 months before has also made a satisfactory recovery.

In one of the four operated cases, no abnormality was found, yet the patient made a full recovery. The other three patients demonstrated a local abnormality at operation.

The authors feel that measurement of motor nerve conduction time provides a quantitative estimate of the severity of nerve damage. Serial measurements proved particularly helpful in the detection of early recovery.

Cord Cells Responding to Touch, Damage, and Temperature of Skin

Patrick D. Wall (Department of Biology and Center for Communication Sciences, Massachusetts Institute of Technology, Cambridge, Massachusetts), J. NEUROPHYSIOL., 23:197-210, March 1960

Investigation with intracellular microelectrodes in spinal cells of primary afferent neurons of skin re-

sponding to light touch and the spinal cord cells in which they end is reported. Since these cells also respond to other types of skin stimuli, modality analysis of the stimulus may be achieved either at the periphery and transmitted by separate central transmission pathways, e.g. dorsal column-medial lemniscus system for light touch, or by encoding of modality as a temporal pattern of impulses in common-carrier cells. Certain types of behavior, e.g. startle response, are largely independent of the modality of stimulus, indicating nervous system centers which analyze only size and rate of increase of stimulus. Other aspects of behavior indicate cells which respond to a single modality.

The average area subserved by a single afferent peripheral light touch fiber is oval, 4x5 mm; the number of fibers innervating a square centimeter increases toward the periphery. Pressure-sensitive fibers form a continuous group within which the threshold varies with fiber diameter. The pattern of discharge in a single fiber is fixed by the intensity and duration of the stimulus, and by the position of the stimulus within the sensitive area. No temperature-sensitive fibers were found which did not respond to pressure; the rate of adaptation for most light touch fibers was decreased by heat.

Afferent fiber endings lie in definite lamina in the dorsal part of the dorsal horn in topographic, rather than segmental or specific peripheral nerve, organization. The area subserved by a single central cell averages 63x32mm, almost irrespective of the part of the leg to which cells were connected. Variation of chemical, temperature, or electrical excitation in the synaptic region of cells produced no modification of the area of skin sensitivity, thus demonstrating highly organized and localized anatomical convergence of peripheral fibers onto central cells without subliminal fringe. Converging fibers are organized into microbundles in the dorsal root containing small groups of fibers from contiguous skin areas. All primary cells that were spontaneously active to light skin touch also responded to heavy pressure and to temperature changes in the same area of skin.

The author concludes that each central cell subserves a receptive field whose boundaries are stable under conditions of changed excitability of the cells. Simple physiology exists, dominated by spatial and temporal summation of impulses in converging fibers, not by a balance of excitatory and inhibitory afferents. No other primary central cells were found that responded only to the fibers sensitive to heavy pressure and temperature; thus, the modality of skin stimuli is encoded in the temporal patterns of impulses. Some common-carrier cells respond only to sudden increase in rate of firing, others when the rate rises above threshold. Interaction between modalities occurs upon simultaneous stimulation.

Lower Motor Neurone Disorders Superimposed on the Residuals of Poliomyelitis: the Value of the Electromyogram in Differential Diagnosis

A. A. Marinacci (Department of Neurology and Neurosurgery, The University of Southern California School of Medicine, Los Angeles, California), BULL. LOS ANGELES NEUR. SOC., 25:18-27, March 1960

The residuals of old poliomyelitis may present a confusing and misleading clinical picture when other conditions are superimposed later in life. These conditions may include: aging, overweight, herniated lumbar disc, pressure neuropathies, peripheral neuritis, recent sensory changes, and a combination of old polio, pressure neuropathies, and disuse atrophy.

Electromyography aids in making a differential diagnosis by distinguishing between old anterior poliomyelitis and recent active lesions or demonstrating a combination of the two. Differentiation is based on electromyographic detection of lower motor neurone involvement as evidenced by the presence of denervation or fibrillation potentials.

Four major points are to be considered: 1. The time of appearance of denervation activity. Fibrillations will appear 18 to 21 days after the presumed cause and if they are first seen much earlier or later they must be presumed due to another cause. 2. The distribution of denervation activity. It may be spotty as in most cases of polio or follow nerve root or peripheral nerve outlines. 3. Whether the cause is recent or old. If recent there will be considerable denervation activity, more spontaneous than mechanical and motor units will be complex but not over 500 microvolts in amplitude. When the lesion is old, denervation activity is mostly mechanical and the complex motor units are of giant amplitude, usually above 2 millivolts due to hypertrophy of remaining innervated muscle. 4. Determination of the cause of muscular wasting. If due to disuse, the electromyogram will be normal. If from myopathy there will be no fibrillations, but motor units are small and the number of discharges is increased. When due to myotonia there are no fibrillations; but prolongation of discharges. Comparison of the patient's current electromyogram with the known pattern for chronic poliomelitis on these points may provide much helpful information in making the differential diagnosis.

Bursitis and Post-traumatic Lesions: Management with Combined Use of Ultrasound and Intra-articular Hydrocortisone

Eugene L. Coodley (Los Angeles, California), AM. PRACTITIONER, 11: 181-188, March 1960

The combination of ultrasonic therapy and a new, more concentrated form of hydrocortisone has been used with success by the author in the management of bursitis and traumatic arthritis. The author analyzes the course of recovery in forty-seven patients. The combined regimen proved particularly useful in clearing certain troublesome symptoms resistant to usual forms of conservative therapy, or to the usual dosage of hydrocortisone administered intra-articularly. Certain forms of athletic injuries are refractory to therapy and this combination deserves further study since the duration of treatment in this series of cases was relatively short.

Abstracters for July

The Editorial Board of the *Physical Therapy Review* is indebted to the following Association members for assistance in the preparation of abstracts in this issue:

Rachel Adams	Betty Lambertson
Jean Cuthbertson	Geraldine Midgley
Joan R. Erback	Miriam Partridge
Rita Getzel	Nancy Watts
Dorothy Kemske	Virginia Wirtz

Book Reviews . . . . .

Clinical Prosthetics for Physicians and Therapists: A Handbook of Clinical Practices Related to Artificial Limbs. *By Miles H. Anderson, Ed. D., Director Prosthetics Education Project, School of Medicine, University of California, Los Angeles; Charles O. Bechtol, M.D., Professor of Surgery (Orthopedics), School of Medicine, University of California, Los Angeles; and Raymond E. Sollars, Associate Director, Prosthetics Education Project, School of Medicine, University of California, Los Angeles. Cloth; price $10.50. Pp. 393; illus. Charles C Thomas, Springfield, Ill., 1959.*

As the subtitle states, this is a handbook of clinical practices related to artificial limbs. It has been authored by persons expert in the field of prosthetics of the extremities.

The Preface notes that the materials used in compiling the book are those employed as texts for courses in clinical prosthetics presented by the Prosthetics Education Project, School of Medicine, University of California, Los Angeles. The information has been developed over a period of years by the many persons associated with prosthetic research, educational programs, and clinical application of prosthetics.

This is a true clinical handbook, presenting only material that bears direct relation to the rehabilitation of the amputee. It is a "What to do" and "How to do it" book and as such should be welcomed by all members of the prosthetic team. It brings together the most usable facts from information heretofore found separately in three or four different manuals and books and presents it with admirable clarity of organization and language.

No doubt is left in the mind of the reader that their foremost interest is the amputee himself; the fabrication of prostheses and the methods of patient care and training serving his total rehabilitation to the greatest possible degree.

The handbook is divided into two parts: Book One—The Upper Extremity Amputee; and Book Two—The Above Knee Amputee. The first book is presented in chapters, the second in sections with no chapter indication. This is no hardship on the user, as the Table of Contents indicates by page the material covered.

In both books the progression of discussion from surgery and prosthetics to training in control and use of the prosthesis gives the proper picture of the close teamwork necessary to produce the best possible result in rehabilitation. The problems and questions likely to arise at each step in the course of treatment are dealt with clearly, accurately and in detail. As an indication of the refinement of technics included Chapter 7: Child Amputees; and Chapter 8: Driving a Car, should be mentioned.

The format of the book is excellent. The pages are approximately 8½" x 11", with clear, easily read type and double spacing between paragraphs. There are clear line-drawings and photographs throughout. Most of them are placed in the ample margins alongside the print describing the drawing or photograph, making reference simple.

Little information is given in respect to the below-knee amputee, presumably because many of his problems are similar to those of the above knee amputee; also gait training is simpler. However, because there are problems in stump care, prosthetic fit and gait training that are more or less peculiar to the below-knee amputee, it could be wished that this subject had also been covered.

This handbook is the best one to date for use in the clinical situation, giving in detail the methods and "tricks of the trade" that make it possible for the prosthetic user to approach normal living as nearly as possible.

A Guide to Orthopaedics. *By T. T. Stamm, M.B., B.S., F.R.C.S., Orthopaedic Surgeon to Guy's Hospital, London, Eng. Cloth; price $3.00. Pg. 115; illus. Charles C Thomas, Springfield Ill., 1959.*

This book is intended to furnish ancillary personnel and consulting medical services with a basic background for dealing with orthopaedic problems and principles. I believe that it accomplishes this objective quite well. The author is quite emphatic and uncompromising in some of the opinions expressed, nevertheless this makes for good teaching and does not detract too much from the value of the book. I believe the first chapter on posture and its maintenance is especially well written and the second section on back ache and the disc syndrome will be equally useful in furnishing a background for understanding of these conditions. I thought that some of the chapters dealing with injuries of the joints and skeletal system might have been enhanced by specific examples of the various injuries and a more detailed discussion of some of the theories on treatment. The author's contention that use of the extremity before healing has occurred is preferable to the more conventional means of immobilization in a position of function until healing has occurred, might be questioned, especially on this side of the Atlantic.

This volume will be important to nurses, physical therapists, and to some extent, undergraduates in medicine.

Kinesiology and Applied Anatomy: The Science of Human Movement. *By Philip J. Rasch, Ph.D., C.C.T., F.A.C.S.M., Associate Professor of Physical Medicine and Rehabilitation, College of Osteopathic Physicians and Surgeons, Los Angeles; and Roger K. Burke, Ph.D., F.A.C.S.M., Associate Professor of Physical Education, Occidental College, Los Angeles. Cloth; price $7.50. Pp. 456; illus. Lea & Febiger, Philadelphia, 1959.*

Dr. Rasch and Dr. Burke from the College of Osteopathic Physicians and Surgeons of Los Angeles and from the Department of Physical Education of Occidental College respectively have rewritten Harry A. Stone's edition of Bowen's APPLIED ANATOMY AND KINESIOLOGY. This may be called the eighth edition of Bowen's original publication. It is a modernization of a classic with a wide range of subject matter, most of which is directed to the major in physical education. However, the authors have attempted to direct some of their thinking to those in the health fields, particularly the physical therapist and the occupational therapist. Much of the text has been rewritten and the material brought up to date with a heavy emphasis on that information which has been gleaned from electromyographic studies. The authors seemed quite impressed with the contributions in this field and indicate that future developments in the use of electromyography should contribute a great deal to the study of kinesiology for

all interested students. The text covers so much in the area of individual subject matter that topics in physiology on structure and action of striated muscle are touched on too briefly for good understanding.

In the chapters on movements of the various joints, the authors have relied heavily on Gray's ANATOMY for their illustrations and materials on origin, insertion, innervation, and action. Since both publications have come from the same publisher, this is not difficult to understand. The authors have not made use of the newer anatomical terminology (Nomina Anatomica, Paris 1955) found in the most up-to-date anatomy textbooks, but this detracts very little from the overall clarity of expression, good photographs and diagrams, and generally good presentation of material.

Bibliographies at the end of most chapters are complete and well done, and have been brought up-to-date to a significant degree. These alone will be valuable resource materials for students or instructors. Many of the photographs are new; however many are from very early editions of Bowen's own textbook.

The authors have had to deal so briefly with some vital elements of kinesiology that very important materials have been too tightly compressed. There is reference to newer impressions in therapeutic exercise in the area of neuromuscular fascilitation, but this is so brief that it is inadequate for understanding. As a textbook in the field of kinesiology, it will be of assistance to instructors in physical therapy, but perhaps is more directed to the physical education group than it is to those in the health professions. The authors make a specific plea that the physical educator should seek medical direction before pursuing a program of corrective physical education with his students. Such advice is certainly indicated.

Survey of Employers' Practices and Policies in the Hiring of Physically Impaired Workers. *Advisory and Research Committees of the Federation Employment and Guidance Service Conducted under a Grant from U. S. Office of Vocational Rehabilitation, Department of Health, Education, and Welfare. Paper; price $.25. Pp. 133; illus. Federation Employment and Guidance Service, New York, 1959.*

Under a grant from the U. S. Office of Vocational Rehabilitation, Federation Employment and Guidance Service, an affiliate of the Federation of Jewish Philanthropies of New York City, conducted a three-year survey (1955-58) of the policies and practices of New York City employers in regard to hiring of physically impaired workers.

The basis of the report is a body of interviews conducted with personnel directors or other personnel representatives. The interviews covered the majority of firms in the city with 500 or more employees and a significant number of firms with working forces between 200 and 499.

The disabilities covered are: cardiac, orthopedic, epilepsy, cerebral palsy, and serious vision problems.

The purpose of this study was to survey the practices and policies of New York City firms with respect to the hiring of disabled workers. Why are they hired and why are they rejected? Are employers more willing to hire some types of disabled person and less willing to hire others? What are the factors which lead to the acceptance or rejection of such workers?

To answer these questions the book covers fully and clearly in 13 chapters such subjects as: some characteristics of the industries, the disabled job applicants, operational policies toward hiring the disabled and some changes in hiring practices with regards to the disabled during the 1950's. There also are sections dealing with reasons advanced against hiring the disabled and reasons advanced for hiring the disabled. There are additional brief notes on the role of the industrial physician. Included in the study is a list of 28 tables covering almost every aspect of the question discussed.

The conclusions reached in this study are of great interest to people working in the health professions since rehabilitation of the disabled is a major goal. The study indicated that formal written policies and practices as regards hiring of handicapped workers are practically nonexistent. Most of the respondents, at some time in the past, had employees with cardiac or orthopedic conditions. About half stated they had employees with epilepsy; very few had workers with cerebral palsy or serious visual problems. The pattern of replies for each industry clearly indicates that orthopedics are the least unacceptable of the five types of disabilities included in this survey. This group is closely followed by cardiacs. The remaining three types of disabilities are clearly much more unacceptable. Four respondents in ten believe there are advantages to a firm in hiring the impaired. One in the remaining six, who saw no advantage, thought the firm had an "obligation" to hire them. One third of the total respondents believe that impaired employees are "better" workers.

These are only a few of the conclusions reached. The manner in which they were reached, the problems encountered in obtaining answers, and the revising of questions to meet the reality of the situation constitute most readable material. This study should prove valuable to anyone interested in the economic future of the handicapped.

Book Reviewers for July

Marie Mendler, Major, ASMC, Assistant Chief Physical Therapist, 97th General Hospital, APO New York.

Margaret L. Moore, Director, Curriculum in Physical Therapy, University of North Carolina, Chapel Hill.

Dorothy C. Weber, Medical Social Worker, D. T. Watson Home for Crippled Children, Leetsdale, Pa.

Jack Wickstrom, M.D., Professor of Orthopaedics, Tulane University, New Orleans.

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What's New . . . . .

70. Miller Twister

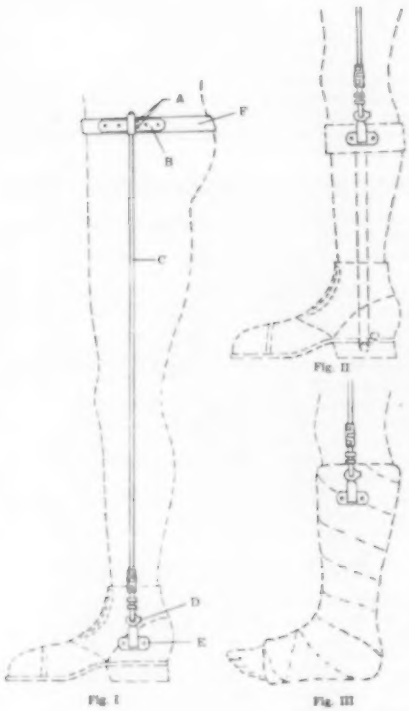

Fig. I

Fig. II

Fig. III

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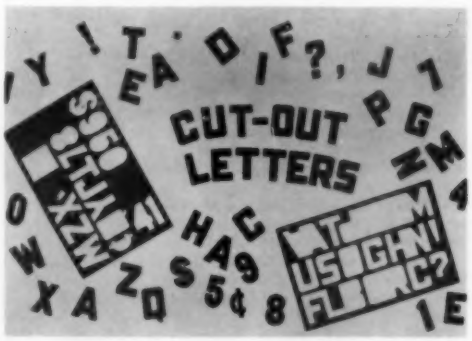
New items which may be of interest to physical therapists will be mentioned in these pages each month. The accompanying explanations are made by the manufacturers and have not been investigated by the *Physical Therapy Review*.

71. Cut-Out Letters



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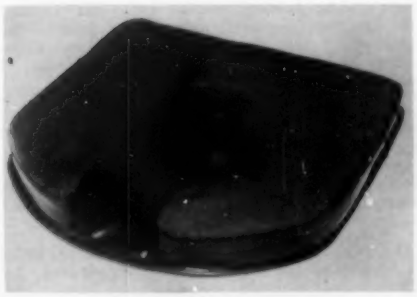
Now, Cut-Out Letters are available for instant use. Made from durable colored cardboards, these letters are used for many purposes, such as signs and displays and posters. Many schools use them for stimulating the child's interest in spelling, phonetics, and arithmetic. They come in a variety of colors (red, black, green, yellow, blue, and white). Capital letters (2 inches) have 130 letters, numbers, and signs to the set, manuscript style (1¾ inches) in sets of 240 letters. Capital letters (4 inches) are also available in sets of 150 letters, numbers, and signs. Cut-Out Letters are easily mounted by using a reusable 2 sided plastic adhesive. Mutual Aids.

(continued on next page)

What's New.....

72. Sacro-Ease Chair Seat



Sacro-Ease may be used in wheel chair, chair, or car seat after perineal or anal injury or surgery. Designated as Special Executive Model RX, the new seat relieves the pressure of sitting in any chronic conditions involving buttocks, ischial tuberosity, and the coccyx and sacral regions.

The new model has a 2-inch foam rubber base. On sides and base it is covered with vinyl plastic, with a high quality upholstery cloth on the seating surface. Waterproof vinyl plastic seating surface cover is optional. The seat may be used with either side uppermost. depending upon the degree of support desired in the affected regions. It is available from many orthopedic appliance and surgical supply firms throughout the nation, or direct from the manufacturer. McCarthy.

73. Preston Catalog

J. A. Preston Corp. announces the new Preston Catalog No. 1065... contains 208 pages, 1057 illustrations, and up-to-date price information on over 2500 products. Among the features attributed to the new catalog are its functional organization, concise descriptions, and inclusion of many additional famous product lines. The organization of the catalog lists all items in any category which may be located instantly and compared with similar products... thus saving time and money.

Copies of the catalog are being mailed to all physicians, physical therapists and hospital departments on the Preston mailing list. A copy may be obtained by writing to J. A. Preston Corp., 175 Fifth Ave., New York 10, N. Y.

74. Cervical Traction Halter

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HOPE HAVEN HOSPITAL is for happy kids
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So this is a fun place to work or play.
If you want a new job, come South, I say.
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TEXAS ADVANCE OPPORTUNITIES: Staff development has opened 3 positions, two assistant chiefs and one staff physical therapist; excellent salary and working conditions; all neuromuscular disabilities treated; student affiliates in physical, occupational, and speech therapy. Medical Director: Board approved physiatrist. For further information write: Odon F. von Werssowetz, M.D., F.A.C.P., Texas Rehabilitation Center, Gonzales Warm Springs Foundation Inc., P.O. Box 58, Gonzales, Texas.

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PHYSICAL THERAPIST I

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(continued on next page)

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PHYSICAL THERAPIST: N. Y. Polyclinic Hospital expanding physical medicine & rehabilitation depts. General rehabilitation problems. Sick leave, paid vacation, partial maintenance. 345 W. 50 St., N. Y. 19, N. Y. CO 5-8000.

PHYSICAL THERAPISTS: For general hospital near N.Y.C. Affiliated residency N.Y.U.-Bellevue, active physical medicine and rehabilitation program. Must be eligible for registration in N.Y. State. Liberal benefits. Start $4420 with yearly increments of $290 to $5290. Contact Personnel Supervisor, Grasslands Hospital, Valhalla, N.Y. LY 2-8500, Ext. 61.

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STAFF PHYSICAL THERAPIST for children's rehabilitation center, primarily cerebral palsy. Careful screening program, university affiliations, teaching program, good working conditions. Salary range $3852-$4692. Address Dr. Lenox D. Baker, Medical Director, North Carolina Cerebral Palsy Hospital, Durham, N. C.

Staff Physical Therapist for The Memorial Hospital, Worcester, Massachusetts. Excellent opportunity for recent graduate. Write Personnel Director.

WANTED: Registered Physical Therapist for treating cerebral palsy, orthopedic and polio children from 2-12 years of age. Four week summer vacation, generous Christmas holiday, social security, 12 days sick leave, annual increments. Starting salary $3900, $4200 per annum depending on qualifications. Contact: Sister M. Canice, Supt., Rose-Mary Home for Crippled Children. 19350 Euclid Ave., Cleveland 17, Ohio. Phone: Iv. 1-4823.

Immediate opening for a registered Physical Therapist for a General Hospital expanding to 207 beds. Paid vacation and sick leave, 40-hr. wk, 7 holidays. Charlotte Hungerford Hospital, Torrington, Conn.

STAFF PHYSICAL THERAPIST, female preferred, for general outpatient program. Salary range from $3850-$4800. Beginning date, June 15. Five day week, liberal vacation and sick leave. Social Security. Apply: Mrs. C. D. Cochrane, Assistant Director, Junior Service League Orthopedic Center, 1219 Dunn Avenue, Daytona Beach, Florida.

STAFF THERAPISTS (2) to work in established department of general hospital located in Berkshire resort area. Department staffed by 5 therapists; 40 hour week; 3 weeks vacation, sick leave; holidays; other fringe benefits. Salary commensurate with experience. Contact: Norma Fisher, R.P.T., Pittsfield General Hospital, Pittsfield, Mass.

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Positions Available

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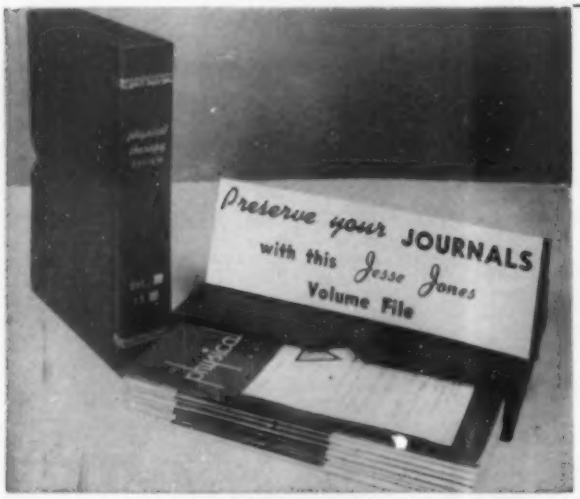

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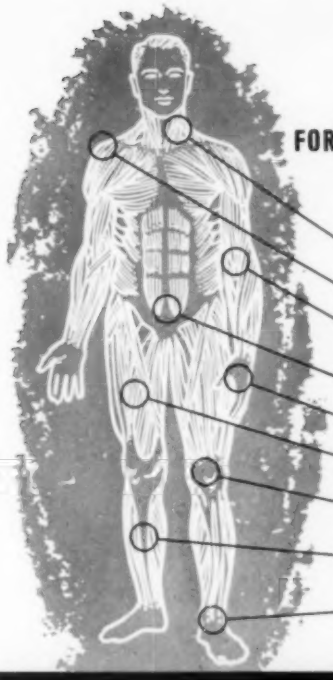

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